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Harriſon, on the Spontaneous Cure of Hydrocele.

Harriſonburg, Rockingham, (Vir.) October 23d, 1806.

SIR,

IF the following fact ſhall appear to you of ſufficient importance, to occupy a place in your uſeful publication, it is cheerfully ſubmitted to your ſervice,

By your obedient and
Humble ſervant,
PEACHEY HARRISON.

DR. JOHN REDMAN COXE.

BENJAMIN SMITH, of a corpulent habit, and beyond the meridian of life, has been now about four years well of that ſpecies of hernia, which has been denominated hydrocele; the hiſtory of which is ſhortly this. About eleven years before the diſappearance of the diſorder, he had been engaged in building a ſtone houſe, and as he poſſeſſed an active and thorough-going diſpoſition, he daily aſſiſted in the moſt laborious parts of

the work, and eſpecially in ſupplying the ſcaffolds with ſtone; and thoſe he generally carried with his hands, ſupported by his thighs and pubes: he received no particular hurt that he can recollect, during the time he was engaged in theſe labours; but the diſorder commencing in the fall of the ſame ſeaſon, he has ever been diſpoſed to believe, that they were the cauſes to which it ought to be referred.

The accumulation of water was ſo rapid, that the tunica vaginalis teſtis, was completely filled, and even diſtended to an enormous ſize in the courſe of a few months. Early application was made to Dr. H. of Staunton, Virginia, but Mr. Smith is of opinion that he did not detect the real nature of the complaint; and indeed this opinion is clearly evinced by the abſurd preſcription of a truſs, which muſt have had a tendency directly inimical to a cure. I am not diſpoſed to diſturb the aſhes of Dr. H. which are now repoſing in the peaceful grave, but I cannot forbear obſerving, that in this caſe, there are ſtrong marks of culpable negligence, or of a want of penetration, and that it is not ſufficient for a man to have been born in a Scotch atmoſphere, or to have been bred up in a Scotch ſchool, in order to entitle him to the claim of ſuperiority in the ſcience of medicine. It is eaſy to conjecture the ſucceſs attendant upon the preſcriptions of Dr. H.—and other phyſicians in this country were conſulted with like ſatisfaction on the part of the patient, and with like ſucceſs in their preſcriptions.

After the tumour had attained nearly, or perhaps quite the ſize of a pint jug, which it did in the courſe of the firſt year, it became ſtationary, and continued ſo without any perceptible alteration, as to the ſize, for the ſpace of ten years. From its bulk, it was a great inconvenience, and a conſiderable deformity, beſides the continual ſolicitude of mind it occaſioned, and which aroſe chiefly from his ignorance of its real nature, or

rather from a belief confirmed by MEDICAL ADVICE, that the tumour was formed by a deſcent of the abdominal viſcera, and that it might ſooner or later prove the cauſe of ſudden death: his fears, however, from this quarter, were removed in 1798, when from a hiſtory of the caſe which he gave, I aſſured him it was a collection of water, and that in all probability, it would grow no worſe than it then was. His ſolicitude being almoſt entirely removed, the conſequence was, that no means were employed with a view to a cure; the truſs was laid aſide as a nuiſance. This was the ſtate of things early in the year 1802, when driving a coachee acroſs Jenyn's Gap in the North mountain, it was overſet, and he was caſt in ſuch a way as to fall with one of his knees upon a wheel, by which the rotula was diſruptured from the tibia, and the knee joint badly diſlocated; this occaſioned twelve weeks confinement to his bed, during which time he lay continually upon his back, with his leg extended.

During his confinement with his knee, his ſufferings from this quarter, were ſo ſevere, that he entirely forgot his old complaint, and did not diſcover until he was able to riſe from his bed and walk through the houſe, that the tumour had entirely diſappeared. It is now about four years ſince this happy event took place; and until this time he continues perfectly free from every ſymptom of hydrocele.

Mr. Smith declares that, ſo great was the inconvenience of the tumour, he by no means regrets to have ſuffered what he did, and his ſufferings it is eaſy to conceive, were very conſiderable, ſince they terminated in the removal of a very inveterate and diſtreſſing malady.

Query. Were confinement to a horizontal poſture and ſpare diet, the only means by which the cure was promoted? or did the affection of the knee contribute any thing towards the cure?

It cannot be doubted, but the cure was the conſequence of the confinement and the circumſtances attending it. Would confinement to a horizontal poſture, and chiefly to the back, for a conſiderable time, with occaſional bliſtering to the parts and a ſpare diet effect a cure in hydrocele?

An Account of the Efficacy of a Salivation in the Cure of the Pulmonary Conſumption; in a Letter from DR. SAMUEL AKERLY, *to* DR. BENJAMIN RUSH.

New York Hoſpital, November 25th, 1806.

SIR,

SINCE my reſidence in this houſe, I have followed your plan in the treatment of phthiſical patients, and have been more ſucceſsful than with any other. The object of this letter is to ſtrengthen your opinion, and increaſe the information on this ſubject; the way to the apt illuſtration of which you have pointed out.

My own trial with mercury in phthiſis pulmonalis has not alone been ſucceſsful; but accidently meeting Dr. C. Ball, of Brooklin, Long Iſland, his practice corroborated mine. I am ſanguine in the belief that mercury will cure a pulmonary conſumption, when it has not advanced to its laſt ſtage. In thoſe prediſpoſed to the diſeaſe by hereditary taint or otherwiſe, it may be ſucceſsfully given, and to effect this, gently to touch the gums is ſufficient, when the cough and expectoration will ceaſe. Mercury, as far as my trial goes, has no effect upon the hoarſeneſs which ſometimes accompanies this diſeaſe. I have generally uſed the mild muriate of mercury in my preſcriptions, in the form of pill, accompanying it with an expectorant. The ſucceſsful caſes which I have noted, are incloſed, and at your

diſpoſal. I have loſt ſeveral patients after they began to take calomel, but they were far gone with the diſeaſe, and deſpaired of, when admitted.

I am your's, reſpectfully,

SAMUEL AKERLY.

DR. BENJAMIN RUSH.

JOSEPH PURSELL, ſeaman, aged 20 years, was admitted into the hoſpital on the 8th July, 1806, for phthiſis. He had been ſick for ſome months, in which time he was very much reduced, and had become greatly debilitated. His cough was great, attended with a bloody expectoration, hoarſeneſs and pain of the breaſt. His eyes were of a gloſſy white, and his tongue furred.

In this ſtate I preſcribed calomel and a pectoral mixture, according to the following formula.

℞ Rad. ſerpent.
Sem. aniſi, ana ʒiij.
Rad. glycyrr. ʒij.

This was boiled in ℥viij. of water, till reduced to ℥vj. When cooled and ſtrained, a large ſpoonful was given every hour; this was continued with the calomel, until his mouth and gums were ſore, and the evacuation by ſaliva was conſiderable. By this time his expectoration decreaſed and was without blood.

The above medicines were then ſtopped, and a ſolution of borate of ſoda was given to waſh and cool the mouth. Tar pills made up with magneſia were alſo adminiſtered, when the

calomel was ſtopped. With this treatment, and a milk diet, he continued to improve till the ſalivation ceaſed. Tar pills were taken till he was diſmiſſed, which was on the 25th of the ſame month, having been confined for 18 days. He was requeſted to ſtay a week longer, but feeling quite ſtrong, and eager to be diſcharged, he went away cured. I ſaw him a few weeks after, and he appeared to be getting ſtrength and fleſh.

J—— A—— S——, once of reputable connections, in conſequence of the death of her parents, had thrown herſelf upon the town, and had lived ſeveral years as a proſtitute, in which ſituation ſhe fell into a conſumption, in the nineteenth year of her age.

She was admitted on the 11th of April, 1806, with a hoarſeneſs and ſevere cough, attended with a painful and difficult expectoration. Her eyes were glaſſy, and ſhe had regular acceſſions of hectic fever in the afternoon. In this ſtate ſhe had lingered the preceding ſix months, in a houſe of ill fame, from whence ſhe came to the hoſpital.

After admiſſion, ſhe had conſiderable fever and pain, for which ſhe was bled and bliſtered. The pectoral mixture mentioned in the preceding caſe was ordered and taken for ſome time without much relief. Three drachms of the paregoric elixir were generally added to ℥ viij of the mixture after it was prepared. It was alternated with the thebaic tincture, but neither would allay the cough. Finding the above medicine had little or no effect, it was changed for the ſpiritus Mindereri, which relieved the patient for a time, but her cough returned as ſevere as ever, when ſhe began to deſpair and weep about her illneſs, leſt ſhe ſhould never recover; I gave her encouragement, however, and promiſed her pills, which if ſhe

would take, I had no doubt would cure her. She was ſomewhat backward, however, fearing they would be mercury, the effects of which ſhe dreaded, as ſome in the ſame ward were under a ſalivation. Calomel pills were, notwithſtanding, given her. The quantity was ſmall, and ſhe continued to take three a-day for upwards of a week, and ſtill continued in the uſe of the ſpiritus Mindereri. Her cough ſoon abated, and had nearly ceaſed, when her gums began to grow ſore, by which time the calomel was omitted without producing complete ptyaliſm. Her legs were likewiſe œdematous to which I applied bandages, and kept bliſters diſcharging with epiſpaſtic ointment, by which means they were ſoon cured.

She continued to take the ſpiritus Mindereri, a large ſpoonful every hour during the day, till diſcharged on the 7th June, when ſhe went away well and in good ſpirits, having been in the hoſpital eight weeks and a day.

JAMES M'COLGAN, ſeaman, aged 36 years, was admitted into the hoſpital on the 30th May, 1806, with an inflammation of the lungs. He had an exceſſive dry cough, with pain of the breaſt and ſide, a full pulſe and hot ſkin. He was repeatedly bled, and bliſters were applied to the breaſt. Expectorants were given him, and he appeared to be getting well, ſo that he walked about, and had fixed upon a day when he thought he would be able to leave the hoſpital. In the mean time he was taken with a violent fit of coughing, which had nearly killed him, and in which he diſcharged more than a quart of pure pus. After this diſcharge, he obtained ſome eaſe, and a reſpite from his cough. A large quantity of the expectorant mixture and anodynes were given to allay the irritation. When the diſcharge ceaſed, a dry cough continued, upon which, after many days trial, pectoral medicines had no

effect. The patient began to grow weak, and was evidently approaching to a conſumption. He now deſpaired of getting well. In this condition I preſcribed calomel in pills, in order to bring on a ſlow ſalivation. In a few days his cough was allayed, and the patient took courage, and again thought of being diſcharged; but before the mercury affected his mouth, his hopes were deſtroyed, and for my own part, I thought he would have died.

Early one morning I was awaked by the nurſe, that I might ſee M'Colgan. I found him in a diſtreſſed ſituation, with a continual violent cough, pouring matter from his mouth. This continued for more than two hours, and was not allayed by powerful anodynes; the matter diſcharged was about two quarts.

Again finding ſome eaſe, the calomel pills were continued, and the expectorant mixture, with an increaſed quantity of laudanum. A ſlight diſcharge of pus by expectoration continued, which gradually decreaſed with the cough as the ſalivation came on, at which time it ceaſed. His medicines were omitted, and a ſolution of borax, (borate of ſoda,) was given to cool and cleanſe his mouth. This ſoon got well, and he went away cured on the 7th July, 1806.

FREDERICK MOLINE, ſeaman, by birth a Swede, aged 39 years, was admitted into the hoſpital on the 10th October, 1806, with phthiſis. He complained of pain in the breaſt, frequent cough, and a bad taſted expectoration. His eyes were glaſſy, his tongue foul, and his pulſe weak. His countenance wore the aſpect of deſpondency. Having been ſick three months, and unable to work, with a family to ſupport, his complaint increaſing upon him, he deſpaired of getting well. Thus

circumſtanced, he was received in the hoſpital. From my firm belief in the good effects of mercury, I immediately preſcribed it with the mixture before mentioned. When his gums were affected, the cough and expectoration abated; the calomel was omitted having produced only a ſlight ptyaliſm, but the expectorant was continued. The pain in the breaſt was removed by a bliſter, but it returned in the form of rheumatiſm about the ſhoulders; another bliſter relieved, but did not remove it. Tincture of capſicum was then applied externally with ſome advantage. The patient left the hoſpital on the 5th of November following, cured of his pulmonary complaint, though ſtill feeling a ſlight pain about the ſhoulders, but his countenance was enlivened, his pulſe raiſed, and his health apparently eſtabliſhed.

Obſervations on Dr. Burton's *Account of a ſuppoſed Caſe of Hydrophobia, by* James Mease, M. D.

Philadelphia, December 1ſt, 1806.

Dear Sir,

In the ſecond Hexade of the Medical Repoſitory of New-York, p. 15, Dr. Burton of Virginia, has publiſhed "an account of a caſe of hydrophobia ſucceſsfully treated by copious bleeding and mercury, in two letters to Dr. Ruſh," upon which I ſhall make ſome remarks; and that no ſuſpicion may be entertained reſpecting inaccurate quotations, I requeſt you to publiſh the whole letter.

JAMES MEASE.

Dr. John Redman Coxe.

"*Bent-Creek (Virginia) Auguſt* 21, 1803.

"SIR,

"BELIEVING that you are always diſpoſed to encourage any thing which may throw light upon the treatment of diſeaſes, I take the liberty of addreſſing to you the following caſe of hydrophobia, requeſting a line or two, if you think it deſerving your attention.

"On the 4th of July, 1803, at nine o'clock in the evening, I was deſired to viſit Thomas Brothers, aged twenty-eight years. I was informed by the perſon who came for me, that he had been bitten by a dog, which his friends ſuſpected to be mad. I found him in the hands of four young men, who were endeavouring to confine him, and thereby prevent him from injuring himſelf or friends. He recognized me, and requeſted me to give him my hand, which he made a violent effort to draw within his mouth. Conſcious of his inclination to bite, he adviſed his friends to keep at a diſtance, mentioning that a mad dog had bitten him.

"His ſymptoms were as follow, viz. a dull pain in his head, watery eyes, dull aſpect, ſtricture and heavineſs at the breaſt, and a high fever.

"Believing, as you do, that there is but one fever, I determined to treat this caſe as an inflammatory fever. I therefore drew ℥xx. blood; and, as he refuſed to take any thing aqueous, I had him drenched with a large doſe of calomel and jalap.

"July 5th, four A. M. Finding the ſymptoms worſe, I took away ℥ xvj. blood, and applied two large epiſpaſtic plaſters to his legs, hoping thereby to relieve the oppreſſion of the præcordia and other ſymptoms.

"Twelve M. Was informed that one of his friends had permitted him to take a ſtick in his mouth; which he bit ſo as to looſen ſeveral of his teeth. As he craved ſomething to bite, I deſired his friend to give him a piece of lead, which he bit until he almoſt exhauſted his ſtrength.

"One P. M. Finding but little alteration, I drew ℥ xviij. blood, and had him drenched with the antimonial powders.

"Two P. M. He ſlept until half after three, when he awoke, with the diſpoſition to bite, oppreſſion, &c. but not ſo violent.

"July 6th, eight A. M. Found him biting the bed-clothes; his countenance maniacal, his pulſe ſynocha, with a ſtricture of the breaſt, difficult deglutition, laborious breathing, and a diſcharge of ſaliva. I took away ℥ xxiv. blood, gave him a doſe of calomel and jalap, and continued the powders.

"Twelve M. Drew ℥ xvi. blood, and gave him laudanum.

"Five P. M. Found him in a ſlumber; his ſkin moiſt, and his fever and other ſymptoms much abated.

"July 7th, eight A. M. Was informed that he had only two paroxyſms during my abſence, and that he had loſt ℥ xvi. blood, agreeably to directions. Notwithſtanding the favourable aſpect which the diſeaſe wore, I reſolved to bleed him twice more, and then to induce an artificial fever by mercury, which would predominate over the hydrophobic. I therefore drew ℥ x. blood, and requeſted his friend to take ℥ xviij. at night; to rub in a ſmall quantity of mercurial ointment; and to give a mercurial pill every four hours.

"July 8th, nine A. M. Found him convaleſcent, but continued the mercurial unction and pills.

"July 9th, ten A. M. Found his gums ſore, and diſcontinued the mercury.

"July 15th, one P. M. Found him well, but with a conſiderable degree of debility.

"It would be doing injuſtice to you not to mention that I was indebted to your lectures for the ſucceſsful treatment of this diſeaſe."

"*Philadelphia, Auguſt* 29, 1803.

"DEAR SIR,

"ACCEPT of my congratulations upon your rare triumph over a caſe of hydrophobia. I give you great credit for the boldneſs of your practice. You have deſerved well of the profeſſion of medicine.

"In order to render your communication more ſatisfactory, permit me to requeſt your anſwer to the following queſtions.

"1. On what part of the body of your patient was the wound inflicted? and how long was the interval between the time of his being bitten and the attack of his fever?

"2. Did he diſcover any averſion from the ſight of water; and did he refuſe to ſwallow liquids of all kinds?

"3. What were the appearances of the blood drawn? Did it differ in the different ſtages of the diſeaſe?

"Your anſwer to the above queſtions will much oblige your ſincere friend,

BENJAMIN RUSH.

DR. BURTON."

"*Bent-Creek (Virginia), Sept.* 18, 1803.

"SIR,

"I regret that buſineſs of an indiſpenſable nature prevented me from being more particular in my communication. I drew it up in a hurry, intending to tranſcribe it, and inſert ſuch other notes as would throw light on the caſe; but being called out a few hours before the poſt ſet out from this place, I was obliged to forward the communication in the manner in which you received it.

"The part of the body of my patient on which the wound was inflicted was a little above the union of the ſolæus and gaſtrocnemius muſcles, which form the tendo-achillis. The interval between the time of his being bitten and the attack of the fever was twenty-four days.

"He was, I was told, dull and ſolitary a few days previous to the attack. A few minutes before it his friends found him two hundred yards from the houſe, apparently in a deep ſtudy. He has informed me, ſince his recovery, that he had a ſlight pain in the wound, attended with itching, and an uneaſineſs in the inguinal gland, ſeveral days before the fever.

"He refuſed to ſwallow liquids; and the ſight of water threw him into a convulſive agitation.

"With regard to the appearances of the blood drawn, I am ſorry to inform you that after it became cold I did not examine it."

I am, Sir, yours,

ROBERT BURTON.

DR. BENJAMIN RUSH."

I will venture to aſſert that the diſeaſe cured by Dr. Burton had not the ſmalleſt connexion with the infection of the ſuppoſed mad dog: my reaſons are

1. The uncertainty we are left in reſpecting the actual madneſs of the animal. Dr. Burton merely ſays, "he was informed that his friend ſuſpected the dog to be mad:" he therefore inſtituted the proceſs of cure, grounded upon the theory of the diſeaſe, which he had received at the Univerſity, viz. that "it is a highly inflammatory fever, and requires copious blood-letting": and it muſt be allowed that the practice was ſtrictly conformable to the theory; but why were not inquiries made into the circumſtances upon which the "ſuſpicion" of the dog's madneſs was grounded; why were not inquiries inſtituted reſpecting the habits of the man, the circumſtances of his ſituation, employment, and expoſure to remote cauſes of fever before his attack? Surely in an awful complaint, about which ſo much has been written, and on the pathology of which ſo great uncertainty prevails, it was all-important to aſcertain the point; and it is ſingular that the reſpectable profeſſor, to whom the account was addreſſed, did not think it neceſſary to add the queſtion among thoſe communicated to Dr. Burton on the ſubject, in the anſwer to his pupil's letter. But as we are left in the dark reſpecting the actual madneſs of the dog, I muſt be allowed to doubt the fact. The man no doubt was bitten; but the ſymptoms under which he laboured, were either produced by the common cauſes of fever, (of which they bear ſtrong marks) increaſed by the terror of the conſequences of his bite, and by the ſuggeſtions and abſurd conduct of thoſe around him; or elſe, they were occaſioned by the latter cauſes alone. The influence of mental perturbations on the human ſyſtem is well known, in exciting a variety of alarming ſymptoms, and in no inſtance is their effect more ſtriking than when they ariſe from the apprehenſions of this truly awful diſeaſe; and we well know our books of medicine abound with the moſt ludicrous conſequences

of them : one perſon who was bitten by a dog "*ſuſpected*" to be mad, as in the caſe of the dog, by which Dr. Burton's patient was bitten, imagined himſelf transformed into the canine ſpecies, or to have imbibed a portion of the canine nature, and of courſe inſiſted that he could reſt in no poſition but upon his hands and knees : another alſo bitten by a dog equally "*ſuſpected*," terrified his friends by barking moſt ferociouſly ; a third bitten by a "*ſuſpected*" cat, amuſed the houſe by *mewing* ſeveral days ; nay ſo fully convinced have ſome been of the inevitable change of the human body into the nature of the animal from which the bite was received, that, when bitten by a horſe they have actually *neighed ;* and others *(riſum teneatis)* who were *pecked* by a "ſuſpected" cock, have deemed it neceſſary to crow. In like manner, Dr. Burton's patient, having been bitten by a dog, and he with his friends, having made up their minds that the animal was actually mad, and being poſſeſſed alſo of the abſurd but common belief, that a deſire to bite is a characteriſtic of the diſeaſe, had his imagination worked up into a full conviction that he muſt do as others had done ; and hence followed his attempt to ſnatch and bite when Dr. Burton approached him. I have, however, no doubt, that if all reſtraint had been taken from him, and he had been aſſured of the preſent health of the dog, that the biting diſpoſition would have ceaſed, and unleſs the cauſes of fever had really acted upon him, the Doctor might have ſheathed his lancet ; the mind of the afflicted man relieved from fears of impending danger would have been tranquillized, and the horror of water have vaniſhed as ſoon as the cauſe producing the ſymptoms had ceaſed to operate.

That fear is ſufficiently powerful to produce the ſymptoms uſually occurring in the diſeaſe originating from the bite of a mad animal, particularly that prominent and diſtreſſing one, the dread of water, I have long ſince proved.

In my inaugural diſſertation, p. 93, I have related the caſe of a gentleman, now holding a diſtinguiſhed place in the magiſtracy of Philadelphia; who was actually frightened into a hydrophobia by his phyſician, and I have referred to two others related by Dr. Percival,* of unfounded fears of infection having occaſioned a ſimilar ſymptom. Others have had ſo permanent a horror of water, merely from having been once bitten; as never after to be able to view it without uneaſineſs, nor to touch it without painful ſenſations. Med. Comment. Edinb. Vol. 6. Nay, even in perſons, whoſe firmneſs of mind, and knowledge of the animal œconomy might be ſuppoſed to ſecure them againſt ſuch ill founded alarms; we find, that the conſequences of mental perturbations ariſing from a ſuppoſed infection, have ſometimes been very alarming. Of this, the caſe of the late celebrated John Hunter was a ſtriking proof. His biographer informs us, that when diſſecting a perſon who died of the diſeaſe ariſing from the bite of a mad dog, Mr. Hunter cut his finger, and the fear of mere poſſible infection in conſequence of it, wrought ſo forcibly upon his mind, that it brought on a violent fit of thoſe ſymptoms (ariſing from an organic affection of the heart,) which ſome years afterward, proved fatal to him.

Many more ſimilar caſes to the above, might be mentioned; can we therefore think it ſtrange, that a man like the patient of

* As Dr. Percival's works are ſcarce, it is proper to give the particulars of the caſes above alluded to.

"Some time ago, I attended a clergyman, who laboured under many of the ſymptoms of hydrophobia, through the ſhock occaſioned by an official viſit to one of his pariſhioners, dying of that diſeaſe. He had no opinion of the Ormſkirk powder (a quack remedy) but the Tonquin remedy, (muſk, cinnabar, &c.) perfectly cured him. I was not long ſince conſulted about a man, bitten by a *ſuppoſed* mad dog. He had the uſual affections of the diſeaſe though in a ſlight degree, which were removed by mercurials and antiſpaſmodics. When the man was recovered, and qualified to ſtate minutely, and without anxiety, the circumſtances antecedent to his attack, I was perfectly convinced that his malady had originated ſolely from the terrors of imagination."

Dr. Burton, ignorant of the many chances againſt his ſuppoſed infection,* and of the nature of the diſeaſe to which he deemed himſelf liable, and whoſe natural fears had been increaſed by the injudicious conduct of thoſe around him, ſhould be driven to a ſtate of frenzy?

2. The abſence of ſome ſymptoms, and the preſence of others in the caſe related by Dr. Burton, is an additional argument in favour of the opinion, that it had no connexion with the canine infection. The only ſymptoms noticed, are a dull pain in the head, watery eyes, dull aſpect, ſtricture and heavineſs at the breaſt, and a high fever; now theſe are by no means the moſt ſtrongly marked ſymptoms in the true diſeaſe, in which the wild look, an anxiety of countenance which it is difficult to deſcribe, a catching of the breath, and ſenſe of ſuffocation upon being expoſed to a current of air, and a rapidity of action, ſo uniformly occur as to ſtrike every reporter; and ſo powerful is the impreſſion left upon my mind by them, from a caſe which I ſaw in Philadelphia† in the year 1801, that upon ſeeing ſimilar ſymptoms in future, I ſhould require no information reſpecting their origin: their omiſſion in the liſt of ſymptoms detailed by Dr. Burton, is full proof, that they did not occur, for had they appeared, he could not have failed to notice them as among the moſt prominent. The dread of water about which ſuch particular inquiry is made in the anſwer to Dr. Burton's letter, is far from being a proof that the diſeaſe proceeded from the cauſe ſuſpected, for in ſome of the beſt atteſted caſes on record,

* It is a ſingular fact, that in every caſe hitherto recorded of the *actual diſeaſe*, death has taken place, and yet that not in one of twenty who are bitten by dogs really mad, does the poiſon take effect. See *Obſervations on the arguments of Prof. Ruſh, in favour of the inflammatory nature of the diſeaſe produced by the bite of* a *mad dog*, p. 43. Philad. 1801. Hence, though it is abſurd to neglect preventive means in caſe of a bite, a ſource of great comfort ariſes to the ſufferer.

† The caſe of Yorke related by Dr. Phyſick, Med. Repoſitory, Vol. V. p. 1.

no difficulty is experienced in drinking,* and when it does occur, it is to be conſidered as merely a ſymptom of a ſymptom, viz. the affection of the throat; an accidental occurrence on which no indication of cure can be grounded; and laſtly, the diſpoſition to bite is alone ſufficient to convince me that the caſe had no connexion with the canine virus, for no ſuch diſpoſition ever occurs in the true diſeaſe; whereas, it always appears in thoſe which have been falſely aſcribed to the operation of the poiſon: nay, ſo far is a ferocity of temper from being attendant on the complaint, that timidity is one of its predominant characteriſtics, and ſome reporters have deſcribed the prevalence of the ſufferer's fears of injury from the bye-ſtanders as peculiarly diſtreſſing; the moſt athletic men have been overawed by thoſe who were greatly their inferiors in ſtrength, and though they do occaſionally exhibit ſudden burſts of paſſion or involuntary roughneſs of behaviour, yet in a moment afterwards they relent, and aſk for pardon in the moſt piteous tones.

3. If I required any other objection than thoſe I have already advanced, to convince me, that the caſe recorded by Dr. Burton, was not in the leaſt connected with the canine poiſon, the remedy by which the cure was effected would furniſh one. Phyſicians deceived by the violent temporary exertions of the ſick, ariſing from a ſudden excitement and conſequent increaſe of muſcular power, have from the earlieſt ages held, that the diſeaſe was highly inflammatory; and ſince the introduction of the lancet, it has been freely employed for its cure. When the learned Boerhaave aſcended the medical chair at Leyden, he ſupported the theory of the inflammatory nature of the diſeaſe with all his weight and extenſive authority, an authority which was probably more widely diffuſed, and more implicitly obeyed,

* I have related ſome ſuch in my inaugural diſſertation, and the public papers laſt year gave another account of a man who died of the diſeaſe under conſideration, and who drank freely during the whole courſe of it.

for near a century, than that of any medical man preceding him: his inſtructions with regard to the treatment of the diſeaſe even ſurpaſſed the practice of the bloody Botallus, and the fidelity with which they were executed, could not be exceeded; but alas, the conſequences were not ſuch as the ſanguine theoriſt expected; DEATH—wide ſpreading DEATH followed the ſteps of the Leyden diſciples in every part of the globe! one of theſe, profeſſor Rutherford, with a candour highly honourable, openly denounced his error in the clinical ward of the Edinburgh hoſpital, and this fact alone, ought to ſatisfy the unprejudiced on the ſubject; for in the caſe he relates, bleeding was tried under circumſtances peculiarly favourable to ſucceſs, and carried as far as the ſituation of the patient permitted: the particulars of the caſe may be ſeen in the memoirs Med. Soc. Lond. Vol. 1. and in my laſt pamphlet on this ſubject.* Thoſe who wiſh to ſee a more decided caſe if poſſible, may conſult that of the boy of Yorke related by Dr. Phyſick in the Med. Repoſ. before quoted, with my remarks upon it, in p. 292, of the ſame volume.†

Will any one believe, that if the diſeaſe were inflammatory, it would not have ONCE been cured by bleeding? and if in thoſe caſes, where from the actual madneſs of the dog being aſcertained, and the ſtrongly marked ſymptoms, no doubt could remain of the true diſeaſe, it has NEVER yet ſucceeded, can the theory upon which ſuch practice is grounded be admitted as correct?

It is worthy of notice, that in all the caſes, which originating from various cauſes, and of courſe appearing in different forms,

* Obſervations on *the arguments* of Prof. Ruſh, in favour of the inflammatory nature of the diſeaſe produced by the bite of a mad dog, 1801.

† The reader will there find, that bleeding was liberally and promptly tried; 62 oz. at four bleedings were taken away in 24 hours, without ſucceſs.

have been miſtaken for the diſeaſe produced by the operation of the canine virus, the diſpoſition to bite is conſtantly mentioned. In Dr. Burton's patient this ſymptom was ſtrongly marked; while in the true diſeaſe, ſuch a diſpoſition never appears: and further, that in all the imaginary caſes of the diſeaſe, the remedies exhibited were conſtantly found to ſucceed, however abſurd or oppoſite in their nature. I will not apply this remark to the prevention, becauſe it muſt be obvious that as not above one in twenty, ſicken who are bitten by dogs actually mad, it is impoſſible with any juſtneſs, to aſcribe the prevention to any external application or internal remedy. Confining the aſſertion therefore to the cure of the actual diſeaſe, I may ſay that the warm bath, cold bath and mercury, muſk and cinnabar (Tonquin remedy,) large bleedings, ſmall bleedings, and the famous quack Ormſkirk medicine, have all been ſaid to cure the dread complaint; but the ſame remedies have been ſo repeatedly tried under every poſſible chance, and without ſucceſs in caſes where no doubt could exiſt of the nature of the affection, that the unprejudiced cannot aſcribe the ceſſation of the ſymptoms in the inſtances of their exhibition to any virtue in them. In this reſpect indeed they are not ſingular, a ſimilar want of ſucceſs having unfortunately attended the practice of every phyſician who has given us the history of the treatment of the true diſeaſe, WHICH ALAS, HAS NEVER YET BEEN CURED!

APPENDIX TO THE ABOVE.

Since I ſent you the obſervations upon the caſe related by Dr. Burton, I have ſeen a paper on the ſame ſubject, in the Medical and Phyſical Journal of London, for May laſt, by Dr. R. Hall of Clement's Inn; and as it will ſerve the cauſe of truth, I beg you to publiſh the following extract therefrom.

After making the ſame remark that I have, reſpecting the uncertainty of the dog's madneſs, he proceeds,

"We are not told in this caſe, that any mode of prevention whatever was employed, ſo that the patient was probably left to indulge his apprehenſions of the conſequences of the accident; which appears, from the whole tenor of the account, to have made a deep impreſſion on his mind.

"The bite, we are informed, was inflicted on one of the lower extremities, but nothing is ſaid reſpecting the ſtate of the bitten part; whether it looked red, aſſumed an inflamed appearance, or underwent any change previous to the attack, or during the continuance of the complaint. We are indeed told, that the patient, after his convaleſcence, informed Dr. Burton, in anſwer to ſome inquiries made by him to this purpoſe, that he had felt a ſlight pain attended with an itching and uneaſineſs in his groin, for ſeveral days previous to his illneſs; but when it is conſidered that he made no complaint of this kind, either before the attack or during the intervals of the paroxyſms, as they are termed, nor was ever obſerved putting his hand to the bitten part, which is not unuſual with patients labouring under this dreadful malady, very little importance, it ſhould ſeem, can be attached to this account; more particularly, when the evident prepoſſeſſion of the patient, as to the nature of his diſeaſe, is taken into conſideration.

"The length of time which intervened between the infliction of the bite and the acceſſion of the complaint, in the preſent inſtance, is ſtated to have been twenty-four days, which is a ſhorter interval than uſual; for, in well marked caſes of hydrophobia, the diſeaſe ſeldom makes its appearance ſooner than five or ſix weeks after the accident. As, however, much may depend on the ſuſceptibility of the ſyſtem at the time the injury is ſuſtained, the virulence of the poiſon, and various other circumſtances, conſiderable latitude muſt, it is obvious, be allowed as to the period of the attack. But when, along with the abſence of moſt, if not all, of the diagnoſtic ſymp-

toms of true rabies, any unuſual deviation occurs in this reſpect, as was the caſe with Doctor Burton's patient, it affords additional ground to ſuſpect, that the ſymptoms may proceed from the operation of a cauſe wholly unconnected with the application of hydrophobic virus.

"Several days previous to the appearance of the diſeaſe, Dr. Burton, we are told, was informed that the patient had been dull and ſolitary, and that his friends, a few minutes before the attack, had found him two hundred yards from the houſe, apparently in a deep ſtudy. This fact, while it tends to prove that the mind of the patient was from the firſt in a very diſturbed ſtate, evidently militates againſt the ſuppoſition of rabid hydrophobia; for it is a leading ſymptom of this diſorder, that the patient cannot bear expoſure even to the air of a common room, without experiencing great uneaſineſs.*

"The ſymptoms enumerated by Dr. Burton, when he firſt viſited the patient, were, a dull pain of the head, watery eyes, dull aſpect, ſtricture, and heavineſs at the breaſt, and a high fever; all which are common to a variety of diſorders, and diſplay nothing characteriſtic of rabid hydrophobia. We are indeed immediately afterwards told, that the patient rejected every thing aqueous; and in a ſubſequent letter to Dr. Ruſh, who had requeſted more preciſe information reſpecting ſeveral particulars, we are given to underſtand, that he refuſed to ſwallow liquids, and that the ſight of water threw him into a convulſive agitation. But, admitting this ſtatement to be correct, it does not thence follow that the malady, under which the pa-

"* This extreme averſion to the contact or application of cold air or moiſture did not eſcape the notice of ſome of the more early writers on this ſubject. Among other ſymptoms, Cælius Aurelianus mentions it as one of the ſigns of approaching hydrophobia: His words are, "Inſueta etiam querela aeris, tanquam auſtrini, quamvis ſerena fuerit quies; item difficilis toleratio, atque tædium, et recuſatio imbrium."

tient laboured, was rabid hydrophobia; for it is well known to every intelligent practitioner, that ſuch ſymptoms are frequently concomitants of other diſeaſes. Innumerable inſtances of this kind might be adduced; but as the fact is too generally known to render that neceſſary, we ſhall only mention a few, which appear to us more particularly remarkable.

"Boerhaave relates a caſe, in which the difficulty of drinking, and conſequent dread of water, accompanied an acute fever, occaſioned by exceſſive heat and fatigue, ſuperadded to the intemperate uſe of ardent ſpirits.* A very ſingular caſe is recorded in the Edinburgh Medical Eſſays, vol. i. in which hydrophobia appears to have depended on an inflammatory ſtate of the ſtomach, without the moſt diſtant ſuſpicion of the patient having been injured by any rabid animal. Whether this might be in reality a caſe of gaſtritis, appears ſomewhat problematical, for few of the diagnoſtic ſymptoms of that affection were preſent; but be this as it may, the patient frequently ejected ſaliva from his mouth, and experienced all the horror and anguiſh at the ſight of water, which are ſo conſpicuous in perſons labouring under genuine hydrophobia. A caſe of hydrophobia ſupervening to a phrenitic attack is related by Dr. Raymond in the Appendix to the 5th vol. of the Medical Obſervations and Inquiries. We ourſelves once witneſſed this occurrence, during a phrenitic delirium, in a patient who rejected water and other liquids with a kind of horror, as often as they were preſented to him. The late fever at Leghorn, according to Dr. Palloni, frequently manifeſted itſelf by the appearance of hydrophobic and other extraordinary ſymptoms.† While theſe and other facts ſerve to explain many of the various and contradictory reports reſpecting the effects of different re-

"* Van Swieten Comment. Tom. iii."

[† In my Inaugural Diſſertation, I have related ſeveral other inſtances of a ſimilar affection occurring ſymptomatically.]

medies in rabies, they evince the neceſſity of a clear and accurate diſcrimination between it and other apparently ſimilar diſeaſes; ſince there ſeems but too much reaſon to ſuppoſe, that various affections of an eſſentially different nature have frequently been confounded with it, merely becauſe the patient had felt an averſion to water at ſome period of the diſorder.*

"Whoever attentively examines all the particulars of the caſe related by Dr. Burton, muſt, we think, be convinced that he has fallen into this error, and miſtaken an affection of a very different nature for genuine hydrophobia. From the very commencement of the diſeaſe, the delirium of the patient appears to have been attended with furor; he raved almoſt inceſſantly, and bit at every thing indiſcriminately within his reach; he was bled; bliſters were applied; and in every reſpect he was treated on the antiphlogiſtic plan. But although, by theſe means, the violence of the complaint was ſomewhat abated, it recurred with increaſed aggravation on the morning

* "What has proved the moſt frequent ſource of this error, we have every reaſon to ſuppoſe, is the application of the term hydrophobia to deſignate the diſeaſe itſelf: a term, which taken in its literal and etymological ſenſe, is merely deſcriptive of a ſingle ſymptom, which, ſo far from being confined to true rabies, is not an unuſual concomitant of various and very oppoſite affections.* With a view to obviate this ſource of error, various terms have been propoſed by different writers on rabies as a ſubſtitute for that of hydrophobia, but all of them appear to be ſubject to more or leſs objection. It would, indeed, be difficult to find a ſingle term ſufficiently comprehenſive fully to expreſs that ſtate of the ſyſtem which is induced by the action of the rabid virus. Hygrophobia (Ὑγροφοβία), which the Greeks themſelves employed, is perhaps leſs exceptionable than moſt others, in as much as it is more extenſive in its import, and expreſſes not only an antipathy to water, but that preter-natural averſion to all fluids, whether in an aerial or more palpable form, which is ſo characteriſtic of true rabies; the latter term, it muſt be confeſſed, is ſomewhat leſs euphonous than the former, but if it be preferable in other reſpects, that is a conſideration of very inferior importance."

[* For this reaſon, and becauſe the ſymptom does not ſometimes appear in the true diſeaſe, I have long ſince propoſed the rejection of the term hydrophobia.]

of the third day from the attack, when we are told, he was found biting the bed-clothes; that his countenance was maniacal, his pulſe ſynocha, with ſtricture of the breaſt, difficult deglutition, laborious breathing, and a diſcharge of ſaliva. All theſe alarming ſymptoms were, however, at laſt, effectually ſubdued by copious and repeated bleeding: mercurial frictions were alſo reſorted to; but the complaint had evidently yielded before they were employed. During the ſhort ſpace of four days, the patient loſt 138 ounces of blood.

"From the hiſtory of this caſe it appears ſufficiently obvious, that violent inflammatory action and acute pyrexia prevailed throughout the whole progreſs, and conſtituted the principal part of the diſeaſe: circumſtances which are never obſervable in well defined caſes of hydrophobia. On a careful review of the whole concourſe of the ſymptoms, as detailed by Dr. Burton, we are of opinion, that they muſt appear to every impartial obſerver, far more characteriſtic of a phrenitic attack than of true rabies; for in phrenitis, the raving is almoſt inceſſant, with few intervals of reaſon; whereas in rabies, the paroxyſms are ſhort and ſudden, and the patient is ſeldom bereft of all conſciouſneſs and perception of what is paſſing around him. In phrenitis, moreover, the delirious furor early manifeſts itſelf, and the patients are generally outrageous; but in rabies, on the contrary, timidity is a prevailing feature, and the patient ſeldom attempts to injure any of the by-ſtanders, or becomes outrageous, till towards the very cloſe of the malady. The only ſymptoms in which the diſeaſe under conſideration bore the ſlighteſt reſemblance to rabies, were, the patient's refuſal to ſwallow liquids, and the convulſive agitation he is ſaid to have experienced at the ſight of water. Now theſe ſymptoms, as already ſhewn, are no uncommon occurrence in phrenitic, as well as in maniacal affections. In phrenitis, beſides, it is well known, that the mind frequently recurs to objects which had before made a deep im-

preſſion on it. That this was the caſe in the preſent inſtance, is clearly evinced by the patient continually warning people to keep at a diſtance from him, for he had been bitten by a mad dog. We are fully aware that the deſiderium aut cupiditas mordendi is given as a part of the character of this diſeaſe by ſeveral Noſologiſts, and that many writers conſider it as a proper and inſeparable ſign of rabies; but whatever ſtreſs may be attached to this circumſtance by ſome authors, it can only be conſidered as a ſymptom of delirium which is common to ſeveral diſorders, and therefore furniſhes no proof of the patient having been affected with canine madneſs.

"With regard to the diſcharge of ſaliva in this inſtance, it ſeems altogether to have ariſen from impeded deglutition, and the convulſive action of the muſcles of the throat and fauces, and is well known to be a frequent occurrence in epileptic as well as in maniacal and phrenitic affections; to the laſt of which the diſeaſe in queſtion appears to have had a more ſtriking reſemblance, not only in the mode of its attack, but in its ſubſequent ſymptoms, than to the peculiar malady reſulting from the bite of a rabid animal. It was not marked by any of the leading ſymptoms of hydrophobia rabioſa; ſuch as an averſion to noiſe and cold air, to the ſound or contact of water and other liquids, to any violent contractions of the lower jaw, any ſtrictures about the throat, with occaſional apprehenſions of immediate ſuffocation or ſtrangulation, any violent efforts to diſengage from the mouth a thick and viſcid ſaliva, any change of voice, inceſſant reſtleſſneſs, and a marked averſion to a recumbent poſture. Laſtly, it not only differed from this dreadful diſorder by the abſence of all theſe ſymptoms, but in its termination, which was ſo unlike that of true rabies, hitherto deemed incurable, that it yielded in leſs than a week to copious and repeated bleedings, and the employment of other reme-

dies:—means which, in the hands of other practitioners, have uniformly proved inefficient. On the whole, so far as we can form any judgment from a comprehensive view of the present case, there seems, we think, every reason to conclude that, whatever might be the disease under which the patient laboured, it was not genuine hydrophobia."

Singular Case of the Alteration of the Colour of the Hair, during Parturition. Read before the Medical Lyceum of Philadelphia, by Wm. P. Dewees, *Dec. 24th*, 1806.

THE following case is communicated more from the peculiar circumstances which attended it, than from its possessing any particular practical importance.

On the 21st February, 1804, I was requested to visit the wife of Reuben Elliot, whose labour was attended with convulsions. I found her under the care of a midwife, who gave me the following account of her. "She had been called to her the evening before, but found very little appearance of labour except pain; the os tincæ was not dilated; there was no secretion of mucus; the pains were irregular in recurrence and force. At five in the morning, (eight hours after her first seeing her) she was seized with convulsions; soon after there was a discharge of the waters; pains continued as before; about an hour after the first fit she was again seized, and the convulsions were after this repeated with considerable frequency and great violence." At nine o'clock, P. M. I was sent for, that is, four hours after the commencement of the fits. I found the uterus but very little dilated, so little so, as not to be able to determine the precise situation of the head.

During my ſtay, the convulſions were very frequent and ſevere; I conceived that nothing but extenſive and repeated bleedings would relieve her; her pulſe was full, tenſe, and ſtrong, in the intervals of the fits; but was extremely frequent, and almoſt imperceptible, when they were about to ceaſe; the ſkin was hot and dry, except at the cloſe of a convulſion, at which time it became cold and clammy; thirſt great; when interrogated appeared much confuſed; complained at times when rouſed of great pain in the head; the breathing laborious, and ſometimes, eſpecially immediately after the fit, ſtertorous; the face much ſwelled, and perfectly livid during the paroxyſms; as the lividity wore off, the pulſe became more expanded, leſs frequent, and hard, and this took place in proportion to the reſtoration of reſpiration.

Many times my patient was threatened with complete ſuffocation, either from ſpaſm, a great quantity of bloody mucus that ſeemed to fill the trachea, or both.

As nothing could immediately be done as I conceived, but bleeding her extenſively, I ſent Mr. Turpin, and Mr. Stark, two gentlemen who were then attending lectures in the city, to ſtay with her, and bleed as much, and as often as ſhould be neceſſary, either to ſuſpend the fits, or to dilate the os tincæ ſufficiently, to allow of artificial delivery. This required a conſiderable quantity of blood; about fifty ounces were taken at four bleedings from ten o'clock in the morning, until five in the afternoon. On my calling at this time, I found the uterus ſufficiently dilated to admit of delivery, and propoſed employing the forceps, in preference to turning, as the waters had been long drained off, although the head had not yet paſſed the ſuperior ſtrait.

The pains, and convulſions were now leſs violent, and leſs frequent; and the woman perfectly ſenſible in the intervals.

I ſent her huſband for my forceps, while I viſited a patient at ſome diſtance. On my return I found the patient in the greateſt affright, as the midwife had incautiouſly alarmed her about the uſe of the inſtruments, and ſhe was ſoon after ſeized with a very violent fit, which I have no doubt was haſtened, and protracted by my preſence.

On my going to the bedſide I obſerved a whiteneſs on the fore part of her head which I had not obſerved before, and called for the candle to view it more particularly, by which, I diſcovered that the hair anterior to the coronal ſuture was changed completely white, excepting where it was here and there interſperſed with locks leſs completely blanched or of its natural hue. I called the attention of the two gentlemen above mentioned, as well as that of the women preſent, to it, and they all agreed it muſt have changed in a very ſhort time, and ſince my laſt viſit.* I immediately proceeded to deliver her with the forceps, which I effected in a ſhort time. She had but two fits after her delivery.

On my viſiting her the next day, I found the hair much leſs white than the preceding evening, and in about four or five days it became nearly natural. I was informed a few days ſince by the midwife who attended her at that time, and has ſince delivered her, that the hair that had undergone the change, remains lighter than the reſt of her hair.

To what circumſtance ſhall we attribute this change of the hair? Did it ariſe from fright, anxiety, or the convulſions themſelves exerting a particular influence on this portion of the ſcalp?

I am inclined to believe it muſt have ariſen from ſome peculiar operation of the mind, as we have upon record ſimilar inſtances, wherein it pretty evidently appears that, terror has ope-

* I was abſent about an hour, or perhaps not more than three quarters.

rated this effect; I shall therefore take the liberty of relating two. Schenkius* relates the story of Don Diego Oforius, a noble Spaniard, being in love with a young lady of the court, had prevailed on her to a private assignation in the garden of the king; they had been there but a short time before they were betrayed by the barking of a dog; Diego was seized by the guards and thrown into prison: as it was a capital offence, he was condemned to die—he was so terrified at hearing his sentence, that in the course of the night he became grey as if far stricken in years, which so moved the king's compassion, as to pardon him.

Boyle† tells us of a captain in the Irish army, who was about to deliver himself up to Lord Broghil the commander of the English forces, agreeably to a proclaimed pardon, to those who would return to their allegiance, being intercepted by a party of the English; the governor being absent, the poor fellow became so alarmed least he might be put to death before his return, that his hair became white in parts, while others retained their original red colour. These cases would seem to point out a particular influence the mind has upon the hairy scalp, but how this influence is excited we cannot pretend to say.

There is one circumstance in this case, and indeed in all others of the kind as far as I have observed, that is worthy of notice—which is, the almost imperceptible pulse near or at the cessation of the convulsions, and its gradual augmentation of volume, and diminution of frequency in proportion as respiration becomes better established. Does this not militate much against Dr. Beddoes' idea of the pulse becoming frequent in proportion to the oxygenation of the blood?

WILLIAM P. DEWEES.

* As quoted by Turner, lib. 1. p. 2. † Exper. Philos. Vol. 1. p. 90.

An Account of two Caſes of Fever, induced by the Bite of a venemous Inſect, and cured by copious Depletion. Communicated to MR. WILLIAM STEPTOE, *Student of Medicine in the Univerſity of Pennſylvania, by* DR. SAMUEL K. JENNINGS, *of Virginia.*

CASE I.

MRS. OWEN was bitten by an inſect ſuppoſed to be a ſpider. About ſunſet ſhe felt a peculiar ſenſation in the ſkin over the right hypochondrium. On examination, a ſmall wound was diſcovered which had a double puncture, ſurrounded by a white elevated circle of about one inch in diameter. In a few minutes ſhe perceived a pain commencing in the wound; thence quickly paſſing into her loins, and, in a very ſhort time extending itſelf univerſally over the whole ſyſtem. She complained of the pain being in her head, loins, hips, ſhoulders, and then again in her head, with irregular alternation, and all in the ſpace of half a minute. It ſeemed impoſſible for her to reſt a moment in any attitude. In a word I could conceive of nothing ſhort of the rack which could exceed her diſtreſs. Various noſtrums were tried in vain. About midnight ſhe was bled fourteen ounces. This evacuation afforded a momentary relief. But in a ſhort time the violent ſymptoms returned, and continued without mitigation till ten o'clock the next day, at which time I arrived. Her pulſe was as if natural. But the violence of the pain was ſuch, that, I ſuſpected a degree of depreſſion, and proceeded to take, 14 oz. of blood. Her pulſe ſeemed to yield a little, and although I had adopted that excellent opinion of Dr. Ruſh, "that fever is an unit," yet the novelty of the caſe, led me to act rather feebly.

Suppoſing, however, that the continuance of the pain, might in part, be owing to the retention of ſome improper matter in the inteſtines, I gave her 60 grs. of jalap, intending a ſpeedy

evacuation. After waiting two hours for the operation, I despaired of the effect, and ascribed the failure to the presence of that kind of torpor of the intestines, which attends highly inflammatory and malignant fever. Supported in this opinion by the idea of "the unity of disease," at twelve o'clock I drew 12 oz. of blood. Thinking that a dryness of the intestines might in part, have prevented the operation of the jalap, about one o'clock I gave her a double portion of an infusion of senna, made considerably dilute. Waited till four o'clock for the operation; but in vain. Being now still more suspicious and even confident of a depressed state of the blood-vessels, I took eight ounces of blood. In the space of half an hour, the arterial action increased to such a pitch, as to equal any I ever saw of recent pleurisy. Immediately I proceeded with confidence and drew 16 oz. more of blood. The happiest effects were the consequence. The pains nearly subsided, and the pulse became soft, free, and very nearly natural. At six o'clock I gave her eight grains of calomel. She dropped into a disturbed kind of sleep, and rested indifferently till eleven o'clock; at which time the calomel excited nausea, terminating in a catharsis, and operated as usual. After the operation, the patient rested pleasantly till morning, and awoke quite well, except only that there was a moderate degree of debility. Nothing further was done, and in a few days she recovered her ordinary health.

In this case 64 oz. of blood were taken from the patient in the course of 20 hours. And prior to these evacuations cathartic medicines given in double and even in quadruple portions, would produce no effect. It is remarkable, that the calomel last given, operated no sooner, nor in a more copious manner, than a similar dose in ordinary cases would have done without the addition of jalap, or infusion of senna.

CASE II.

Mrs. Brown was bitten by an inſect, on the top of the foot. At the firſt it gave no pain; but, in about 15 minutes a peculiar painful ſenſation aſcended up the affected limb, and ſpread itſelf over the whole ſyſtem. The ſymptoms ſo nearly reſembled the caſe of Mrs. Owen, that, I have no doubt the ſame ſpecies of ſpider had produced them. The bite was firſt perceived in the evening. Her pain through the night was excruciating; inſomuch, that, ſhe deſcribed it, as by far exceeding the moſt violent pains of parturition. All the remedies of the neighbourhood were tried in vain. The next morning I was ſent for, but was abſent. By the advice of one of my pupils, however, the meſſenger returned, and had her bled about 14 oz. at mid-day. As in caſe I. the blood-letting afforded relief for a ſhort time. But the violent ſymptoms ſoon returned, and continued till about ſunſet, when I arrived to her relief. Finding her pulſe very tenſe and active, I took from her 14 oz. of blood. Her pulſe became ſofter and her pains abated. In the courſe of half an hour, however, the action of the artery again increaſed. Emboldened by the ſucceſs which had attended a ſimilar practice in the former caſe, I proceeded without heſitation to repeat the blood-letting and took about 12 oz. The effects were as at the firſt, and the relief afforded was a little more complete, and of longer duration. But in leſs than one hour her pulſe became more tenſe than at the firſt, and the pains were conſiderably increaſed. The blood-letting of courſe was again repeated, to the amount of 10 oz. The ſame good effects again followed the evacuation, and were again, ſtill more permanent. In the courſe of an hour, the arterial action and pains were again becoming violent. Believing the ſtimulus of the venom, to be more than ſufficient to counteract the debility, which muſt certainly have followed ſuch an amazing loſs of blood in any ordinary caſe, and being ſtill confident of ſucceſs, I ventured to take 14 oz.

more of blood. The effects were now very conſiderable. She complained of faintneſs, on being raiſed up in her bed; ſtill however, ſhe was not without ſome degree of pain. She was then directed to make a free uſe of an infuſion of ſenna, to which was added a portion of tartarized antimony, until it ſhould produce a conſiderable evacuation. As in caſe I. when the catharſis was complete, her diſeaſe diſappeared, and nothing farther was done. In this caſe 64 oz. of blood were taken within the ſpace of nine hours, and 50 oz. between the hours of ſix and nine o'clock in the morning.

Do not theſe two caſes ſtrongly argue that "fever is an unit," by whatever cauſe it may be induced?

Is it not highly probable, that a ſimilar practice would relieve the painful fever, conſequent on the bite of a ſnake?

I think it would be proper, in treating the ſnake bite, not only to introduce general, but, alſo topical blood-letting. It may be obſerved, that the venom which was introduced into the ſyſtem by the inſects, in the caſes of Mrs. Owen and Mrs. Brown, excited little, if any pain or ſwelling in the part firſt affected. It would ſeem that the virus is not perceived until it has ſpread its baneful powers over the whole ſyſtem. But it is well known, that the venom of the rattleſnake gives immediate alarm to the ſurrounding veſſels, and there is inſtantaneous reſiſtance made to its progreſs, as is evident from the ſpeedy pain and circumſcribed ſwelling, which take place. It would therefore be proper to extend the general blood-letting according to general appearances, and by ſcarifications and cupping, to circumvent the topical affection. As the ſwelling and pain progreſs, the topical blood-letting ſhould be proportionally extended.

That the two caſes here deſcribed were the effects of the ſpider's bite, I have no doubt. Several caſes have occurred within

the bounds of my acquaintance, in which, the little venemous agent was ſeen to inflict the wound, or perceived immediately on having done the execution. In all theſe caſes the effects were ſo intirely ſimilar, that by every principle of analogy, it muſt be admitted, that all were produced by ſimilar cauſes.

Do not the ſymptoms as deſcribed in caſe I. conſiderably reſemble many caſes of the yellow malignant fever which appeared in Philadelphia, in 1793?

SAMUEL K. JENNINGS.

P. S. The caſe of Mrs. Owen occurred in the autumn of 1805; that of Mrs. Brown about the 1ſt. of October, 1806.

Hiſtory of a Caſe of Mania, which was ſucceeded by Pleuriſy, and a peculiar Form of Mortification in the Toes, in a Letter addreſſed to DR. SAMUEL STRINGER, *of Albany, New York. By* JOSEPH KLAPP, M. D.

Philadelphia, January 7th, 1807.

MY DEAR SIR,

WHEN I laſt was honoured at your own houſe in Albany, with a flattering ſhare of that urbanity of manners, and kindneſs of attention, which have long ſince attracted the admiration and eſteem of an extenſive round of friends, I promiſed myſelf the enjoyment of writing occaſionally to you. But incidents of a variegated nature, too numerous and unintereſting to be recounted in this place, have unexpectedly interfered with the earneſt wiſhes of my heart; a leiſure hour has at length occurred, and no conſideration can induce me to neglect the preſent opportunity of reviving in the memory of my aged friend, the recollection of his former pupil in medicine. As I am well acquainted with your great attachment to the practical department of our profeſſion, I have ventured to ſelect

for the ſubject of this letter, the hiſtory of a caſe of mania, which was ſucceeded by pleuriſy and a peculiar form of mortification in the toes. During my reſidence in Lancaſter, the caſe to be related occurred in my practice, under circumſtances of ſuch a nature, as induced me to regiſter a circumſtantial account of it, with the intention of ſubmitting it on ſome future occaſion to your conſideration.

On the 14th of December, 1805, I was requeſted to viſit an Iriſhman of the name of O'Don, who was repreſented to me as labouring under a recent, but violent attack of derangement. The poor man was found in a very ſerious condition, his countenance was wild, and diſtorted into a maniacal aſpect, his ſkin was covered with a cold and clammy ſweat, and the pulſe, the chronometer of diſeaſed, as well as healthy excitement, was in ſome degree accelerated, and beat with a ſmall but compreſſed volume. One of the attendants favoured me with the neceſſary intelligence of the man's habits, and the manner in which the indiſpoſition had firſt invaded his ſyſtem. I was informed that O'Don was a day labourer, aged about forty years, who had long been addicted to various acts of imprudence, ſuch as a flaviſh uſe of ardent ſpirits, expoſing himſelf to the rigour of the weather, when in a ſtate of intoxication, and other kinds of injurious hardſhips. That during the three or four preceding days, he had complained of being unwell, and in order to drive out what he believed to be a forming fever and ague, he had poured in large, and repeated doſes of a very palatable medicine;* but unluckily the antidote *for once*, proved inadequate to a cure, and the diſappointed patient was by ſome friend more cautious than himſelf, adviſed to have recourſe to a remedy,† which was attended with an operation upon his ſenſe of taſte and ſtomach, in a conſiderable degree, oppoſite to the one which his own experience in *diffuſible ſtimuli* had previouſly dictated. The ſecond remedy, however, was not more ſaluta-

* Whiſkey. † An emetic.

ry in its conſequences that the firſt; for though it was pretty ſevere in its operation, yet it left the fellow worſe than it found him. In a few hours the ſymptoms of indiſpoſition were greatly multiplied; he became very reſtleſs, and now and then would betray a few mental irregularities; his countenance was frequently obſerved to be ſuffuſed with redneſs, and he complained of a pain in his head. That about ten o'clock laſt night, he became evidently more indiſpoſed; he was agitated by contending paſſions, and ill-founded ſuſpicions, to ſuch an alarming degree, as to make it an extremely difficult taſk for half a dozen men to keep him in neceſſary ſubjection.

In this wild and refractory condition I found him, early on the enſuing morning. From the ſymptoms of his caſe, which have been given, and from the aſſurances which I had of his having long been an intemperate man, I naturally concluded that he was affected with lunacy from ſtrong drink. The uſual remedies for ſimilar caſes of inſanity were reſorted to, ſuch as venæ-ſection, bliſters, nitre and calomel powders, occaſional laxatives, ſilence, &c. accommodated and perſevered in, with a conſtant regard to the ſtate of the ſyſtem, and the ſtage of the diſeaſe.

By this plan of treatment, in the ſpace of two weeks, I ſo far ſucceeded in relieving the patient of the violence of his diſeaſe as to render him wholly inoffenſive, and his behaviour in moſt reſpects ſtrongly indicated a return of the reaſoning powers of his mind. His pulſe from being morbidly quick, compreſſed and ſmall, had become only a few pulſations more frequent than common, it was ſoft and entirely unburthened of conſtriction. While in this highly promiſing ſituation, and a few days after the dawn of returning reaſon had foretold a ſpeedy recovery, and at a period too, when feeble morbid action was only competent to produce a few ſlight appearances of remaining illneſs, ſuch as a belief in an irrational notion which was contracted in the beginning of the diſeaſe, and occaſionally

an improper remark, I was unexpectedly called upon to avert the impending danger of a new ſet of ſymptoms. I found poor O'Don complaining of a violent and conſtant pain between the ribs of the left ſide, which was aggravated by reſpiration; he was affected with a cough that was diſtreſſing almoſt beyond indurance, nothing was expectorated but a little frothy mucus ſtreaked with blood. His pulſe was ſynocha or tenſe and full, ſkin dry and huſky, and his reſpiration was hurried. Sixteen ounces of blood were immediately taken from the arm; a mercurial laxative was exhibited, and barley water was ordered for his common drink. At my next viſit I could not diſcern that any abatement of the painful ſymptoms had been accompliſhed, the lungs appeared to be quite as much diſeaſed as they were the day before, the tongue was covered with a white fur, and the pulſe beat high to the tune of pleuritic inflammation. But I have now to mention one important change for the better, which had occurred in the courſe of the laſt twenty-four hours; the legal empire of reaſon had been completely re-aſſumed. Infanity no longer appeared to be the indiſpoſition of my patient, for he now returned me rational anſwers to numerous queſtions which were propoſed to him by way of experiment.

After I was firmly convinced that the man no longer laboured under mania, which was his firſt diſeaſe, two important theories in the medic art intruded upon my mind, the incompatibility of oppoſite kinds of diſeaſes at the ſame time in the whole ſyſtem as revived and extended by Mr. Hunter; and the unity of morbid nature as happily diſcovered by the great Dr. Ruſh. The doctrine advocated by Mr. Hunter, I ſuppoſe, was deduced from the obſervation that diſeaſes under circumſtances of force of impreſſion, and prediſpoſition in parts, were capable of ſuperſeding each other;* and the broad and comprehenſive

* The theory which ſuppoſes that different diſeaſes cannot prevail at the ſame time in the arterious ſyſtem, was familiar to many phyſicians before the time of John Hunter; it is advanced in a work publiſhed by Jacobus Verſellonus, in 1722, entitled, De Pudendorum morbis et Lue Venerea.

principle of our learned countryman, is ſupported by correct philoſophical views of the nature of diſeaſed and healthy excitement. To the province of which of theſe principles does the great change in O'Don's caſe belong for explanation? Was the irregular or convulſive action in the blood-veſſels of the brain, which conſtituted mania, removed by the ſupervention of another diſeaſe in the ſyſtem; or ſhall we conclude that the diſeaſed action in both conditions of the ſyſtem was of the ſame kind, that the prediſpoſition to inſanity was nearly cured by the remedies uſed, and that ſupervening debility in the pleura, was converted by weak morbid action of the arterious ſyſtem into pleuritis? As my chief object in this letter is to give an impartial detail of facts, I will leave theſe queſtions, though of great importance both in a practical and theoretical point of view, undecided for the exerciſe of your ſuperior judgment, and return to my patient. As the man was groaning under the preſſure of ſeveral inflammatory ſymptoms, a vein was again opened, when a pint of blood was taken from him; the demulcent drink rendered more expectorant by the addition of gum arabic was continued, and a large epiſpaſtic plaſter was applied over the pained part on the affected ſide. The next day O'Don was much better notwithſtanding the extenſive veſication, and a ſenſe of great heat which the bliſter had occaſioned. The nurſe informed me that he ſlept more during the laſt night, than he had done any preceding one ſince the beginning of his derangement. The force of the fever and pain in the ſide were greatly abated. To day the pulſe was ſynochula, or tenſe, ſmall and frequent, the cough was not ſo painful; it was now attended with an eaſy and copious expectoration. But among all theſe favourable appearances, nothing afforded more ſatisfaction than the circumſtance of his ſtill retaining the powers of his mind unimpaired by morbid impreſſions. As the ſubſequent ſtages of this diſeaſe were not attended with any thing of ſufficient importance to be recorded, I will not treſpaſs on your patience by going into an unintereſting detail of particulars, but will content myſelf with obſerving in a general way, that in about

eight or ten days the pleuritic ſymptoms nearly, or quite ſubſided. In about one month, however, from the commencement of O'Don's illneſs, and at a period when both forms of the diſeaſe had to all appearances left him in a convaleſcent ſtate, the nurſe by accident diſcovered that an affection of a ſingular kind, had begun upon the ends of two or three of his toes of both feet. At my next viſit I was made acquainted with the fact; upon examination, I found, not a little to my ſurpriſe, that a mortification had actually invaded the toes of both feet, and had already extended up them near half their length. The patient declared, that previous to being told by the woman of the affection, he had been inſenſible to its influence, except that for a few days paſt, he was aware of a numbneſs or an impaired ſenſibility in the ends of ſeveral of his toes. The black ſpots which were in a ſtate of mortification, occupied the very extremities of the toes, the parts which were then ſuffering under the advances of the diſeaſe had a red appearance; at this period I could not obſerve that the feet were ſwelled, or the ſkin diſcoloured. The uſually reſorted to criterions of the condition of the ſyſtem, did not indicate any conſtitutional diſeaſe, the tongue looked healthy, and the radial artery only beat the pulſe of debility.

For the ſake of being more certain of the nature of the diſeaſe, I intentionally omitted doing any thing to arreſt its progreſs until the enſuing day. The next morning, however, the appearance of the man's toes convinced me, that further delay in having recourſe to medicine, would in all probability, be attended with dangerous conſequences.

The mortification had not only extended itſelf much further up the toes, but his feet and ankles were now conſiderably enlarged by tumefaction. The cuticle of ſome of the affected toes had become detatched, and in ſeveral places the cutis exhibited an inflammatory aſpect. The patient informed me that ſince my laſt viſit, his feelings had experienced a very great al-

teration, that the dulneſs of ſenſation, and ſlight uneaſineſs which had affected him for a few days back, had been during the latter part of yeſterday, ſuperſeded by an entire loſs of feeling in the ends of his toes, and darting pains through his feet and ankles, which had been ſo conſtant and violent as to occaſion him a ſleepleſs night. His pulſe had a quickneſs ſuperadded to its ſtate of yeſterday, which told of the febrile condition of his body; and the various ſymptoms of the caſe taken collectively, I muſt confeſs, cauſed me to entertain ſerious apprehenſions for the ſafety of the patient. But the conſiderable ſucceſs which had crowned my endeavours on the previous occaſions, invited me in the preſent one to continue to diſpute every inch of ground with death. With the point of a lancet, the mortified integuments were deeply ſcarified in ſeveral places; pledgets of lint ſpread with baſilicon ointment, impregnated with ſpirits of turpentine, were next applied to the toes, after which each foot and toes were included in a large emollient cataplaſm.

Notwithſtanding I was aware that an Engliſh ſurgeon had repreſented the cinchona as a very doubtful remedy in this peculiar kind of mortification, yet, on account of different experience which other phyſicians have met with, I determined to afford our American antiſeptic a fair trial in this caſe. Accordingly O'Don was ordered to take a drachm of the pale bark every hour, in a little plain water, which was requeſted to be continued without any interruption, until countermanded. As Mr. Pott has recommended a treatment of this diſeaſe in ſome reſpects diſſimilar from the one which I have thought proper to adopt, it may be conſidered neceſſary that the curative indications which I purſued in this caſe ſhould be mentioned. The commonly ſubſcribed-to maxim in medicine, that oppoſite forms of diſeaſe* cannot exiſt at the ſame time in the ſame

* It is in this place neceſſary, for the ſake of ſcience, and a deſire to be underſtood, to aſſign ſome reaſon for having worded this maxim differently from what

part of the body, renders it extremely probable, that to arreſt the progreſs of mortification, whether it is the conſequence of preceding inflammation, ligatures, cold, &c. or if it ariſe from cauſes not diſcoverable by the phyſician, the method of cure cannot vary in any conſiderable degree. After that wary attention is given to particulars, which every caſe more or leſs requires; to produce new and healthy action throughout the whole ſyſtem in common, and in the affected parts in particular, by the uſe of general and local remedies, ought to be the conſtant aim of the phyſician.

you commonly find it done in books on medicine. To mention in a general way, that I have adopted the American arrangement in pathology, and conſequently could not commit myſelf ſo much as to uſe the word diſeaſe in the plural number, may not be deemed a ſatisfactory explanation for this inſtance of a wide departure from an old cuſtom. However, to avoid every danger of having my real meaning miſconſtrued, which a reſerve of medical ſentiments on this ſubject might occaſion, I am willing to hazard, as far as the circumſcribed limits of a note will admit, a few of the great number of arguments which can be produced in favour of the theory which ſuppoſes diſeaſe to be an unit. A catenation of the ſame cauſes will, when operating in a certain progreſſive order, neceſſarily produce effects in nature the ſame, but which will always be preſented under different appearances, according to the circumſtances under which the producing cauſes acted. For example, bodies which have a greater affinity for caloric than what water has, will, when their affinities are excited produce ice, hail, froſt, or ſnow, according to the circumſtances under which the cauſes acted upon the water.

Electricity will, when eliminated from bodies which contain it, under different circumſtances aſſume very different appearances; when diſengaged by friction, it is preſented in its ordinary form, and when evolved by the oxygenation of metals, the electric fluid aſſumes the form of Galvaniſm; notwithſtanding this diverſity of appearance, electricity is, like diſeaſe, an unit. Now as every poſſible variety of diſeaſe which can aſſail the animal body, is always preceded by the ſame ſet of cauſes; to wit, ſtimuli, as the remote, debility as the prediſpoſing, irritants as the exciting, and irregular action as the proximate; it follows according to every rule in ſound logic, as a matter of courſe, that the nature of the product will be the ſame, however variegated the appearance collateral circumſtances may conſtrain morbid nature to aſſume. But the theory which contends for a multiplicity of diſeaſes ſui generis, and every one of a totally different nature, is very objectionable, in the firſt place, becauſe it implies a plurality of mor-

Mr. Pott objects to the cinchona becauſe in moſt of the caſes it has failed in his hands to produce a cure, and recommends opium to be uſed in its ſtead; he is likewiſe oppoſed to active local remedies, through an opinion that they will injure by occaſioning irritation and pain. But as one of the indications of cure in mortification, is to rouſe the inactive veſſels of the affected parts into new and healthy excitement, and thereby counteract weak morbid action, I cannot at this time feel conſcious of any juſt foundation for Mr. Pott's opinion. I have no doubt but that a bliſter would as ſpeedily arreſt this form of mortification, as profeſſor Phyſick has found it capable of, in a number of inſtances, where the mortification was occaſioned by obvious cauſes.

bid natures, and this concluſion which the old doctrine will lead directly to, in my eſtimation is as inconſiſtent as it would be to inſiſt on the exiſtence of different kinds of fire, electricity and light, becauſe theſe bodies diſplay oppoſite phenomena when diſengaged under different circumſtances. In the ſecond place, the theory muſt be defective, becauſe no one can correctly conceive of actions virtually different from each other, as action is the ſame whether we witneſs it in the direction of a plain or a circle. In the third place, by a certain variation of circumſtances, ſpaſms, convulſions, preternatural heat, itchings, ſhocks, and ſuffocated excitement, the known forms of diſeaſe, may be changed into each other; ſo may ice, hail, froſt, and ſnow, very familiar forms of a ſingle ſubſtance, be converted into each other by a change of circumſtances; but it muſt appear evident if what I have termed forms of diſeaſe, are to be regarded as ſo many diſtinct diſeaſes, that the fortuitous efforts of nature, and unlimited ſkill in the medic art would no more be adequate to change them into each other, than the botaniſt would be competent to convert plants belonging to oppoſite claſſes of the ſexual ſyſtem into each other, or the chemiſt to change iron and copper into gold and ſilver.

I have converſed with phyſicians, who affect to believe that Dr. Ruſh's theory of diſeaſe will not be found when critically examined, to vary much from the old one maintained by Hoffman, Cullen, and other noſological writers; and who are too much in the habit of declaring that the doctor's pretended improvement is nothing more than "a far-fetched and little worth" innovation in language, and conſequently a uſeleſs diſpute about words. I muſt acknowledge that I have often been at a loſs to determine whether ignorance, or ill-natured prejudice, is moſt abundant, and over-ruling in the minds of ſuch unworthy members of the fraternity.

I will now proceed to relate, how far the remedies made uſe of in the preſent caſe, proved competent to the attainment of the objects in view. On the ſecond day after the commencement of the above treatment, no obſervable abatement had taken place in the ſwelling of the feet, the pain and diſcoloration of the ſkin remained as the day before; but it was plain that the progreſs of the mortification was leſs rapid than it had been. The ſtate of the pulſe indicated that the tonic and ſtimulating remedies were working their cuſtomary effects on the ſyſtem, it was leſs frequent and fuller. The incitant applications to the toes, and the emollient poultices were continued, and the uſe of the cinchona in the form of decoction was rigidly perſevered in. At my third viſit, which was on the enſuing day, the man was found much better, the diſcharge from the toes contained a ſmall quantity of healthy pus, the mortification had not advanced any ſince yeſterday, the pain was leſs ſevere, but ſuch a degree of tenderneſs had been left in the gaſtrocnemii muſcles, that the patient was neceſſitated to lie in bed with his legs bent. On the next day the pain and ſwelling of the feet were much leſs, the proceſs of ſloughing had begun, ſuppuration was copious, and the tenderneſs of the legs, which had been ſo much complained of the day before, had now nearly ſubſided. By a continuation of the cinchona, and ſuch local remedies as the ſtate of the parts required, the diſpoſition to mortification was completely eradicated, and in the courſe of about one week or ten days, the dead parts were caſt off entirely. During the remainder of the patient's indiſpoſition, nothing of ſufficient importance occurred to be related; the ſurfaces of the ſores after the ſeparation was completed between the dead and living parts, preſented a favourable aſpect, and incarnation was nearly accompliſhed at the time the man left town.

After a renewal of unfeigned aſſurances of that grateful eſteem and warm friendſhip, which have long been felt for you, I will conclude this letter, by ſubſcribing the name of your humble ſervant,

JOSEPH KLAPP.

The following very intereſting Paper is tranſlated from the Supplement to the Madrid Gazette, of the 14th October, 1806. A Copy of which was preſented by the Marquis de Caſa Yrujo, to the American Philoſophical Society.

ON Sunday the 7th of laſt September, Dr. Francis X. de Balmis, honorary ſurgeon of the Royal Chamber, had the honour of kiſſing the hand of his Majeſty, on his return from a voyage round the world, undertaken with the ſole view of carrying to all the Spaniſh dominions beyond ſea, as well as to thoſe of other nations, the ineſtimable bleſſing of vaccination. His Majeſty deeply intereſted in the ſubject, informed himſelf of the principal events of the expedition, and was wonderfully gratified by finding that the happy reſults had far exceeded the expectations formed when it was planned.

The perſons attached to the expedition were, ſeveral phyſicians, with aſſiſtants, and 22 children, who had not had the ſmall-pox, and were deſtined to preſerve the valuable fluid, by a ſucceſſive vaccination from arm to arm, or one after another in the courſe of the voyage. They ſailed from the port of Corunna, under the direction of Balmis on the 20th November, 1803. They firſt touched at the Canaries, then at Porto Rico, and from thence proceeded to Carracas. On leaving the port of Laguira in that province, they ſeparated into two parties, the one ſailing for South America under the care of the ſub-director Dr. Francis Salvani; the other under Dr. Balmis for the Havannah, and from thence to Yucatan. In this province they again made a diviſion. Dr. Francis Paſtor proceeded from the port of Siſal to that of Villahexmoſa in the province of Tabaſco, to propagate vaccination in the royal city of Chiapa, and as far as Guatimala, paſſing through a tedious and rough country for 400 leagues to Oaxaca; whilſt the other party arriving ſafely at Vera Cruz, not only paſſed through the whole vice-roy-ſhip of New Spain but the interior provinces, from whence they were to return to Mexico, which was the point of reunion. Having profuſely diſſeminated this preſervative from

the natural ſmall-pox, through the northern parts of Spaniſh America, to the coaſts of Sonora and Sinaloa, and even to the Pagans and new converts; having eſtabliſhed in each capital a central *ſociety*, compoſed *of the higheſt* authorities and moſt zealous medical characters, to preſerve it as a ſacred depoſite, for which they were anſwerable to the king and poſterity. The director determined, that this part of the expedition, which had been crowned with the moſt brilliant ſucceſs, ſhould carry to Aſia this conſolation of humanity; and having overcome ſome difficulties, they embarked at Acapulco for the Philippine iſlands, which was the ultimate point preſcribed to them.

The great and pious deſigns of his Majeſty being favoured by Providence, Dr. Balmis accompliſhed his paſſage in little more than two months, taking with him from New Spain 26 children to be ſucceſſively vaccinated; and, as many of them were very ſmall, they were placed under the care of a matron from the orphan houſe of Corunna; and in this, as in the former voyages, the greateſt attention was paid to their cleanlineſs and comfort. The expedition having arrived at the Philippine iſlands, propagated this ſpecific through the iſlands ſubject to the dominion of his Majeſty.

Dr. Balmis having thus cloſed his philanthropic miſſion, reſolved, with the conſent of the captain-general, to extend the beneficence of the king and the glory of his auguſt name to the utmoſt confines of Aſia.

In conſequence, vaccination was introduced through the vaſt Archipelago of the Viſayas iſlands, whoſe kings, heretofore conſtantly at war with us, now laid down their arms, ſtruck with the generoſity of an enemy that brought them health and life, when they were grievouſly afflicted by an epidemical deſolating ſmall pox. This evil was equally prevalent in the Portugueſe colonies and the Chineſe empire, when Balmis arrived at Macao and Canton; he there ſucceeded in introducing freſh and active vaccine matter, by the means already pointed out. The Engliſh had been unfortunate in the many attempts they had made by bringing portions of matter in the veſſels of the India company, which always proved inert.

After having extended vaccination in Canton as much as poſſible, under the political regulations of that empire, and leaving its propagation to the phyſicians of the Engliſh factory in that place, Balmis returned to Macao and embarked for Liſbon, where he arrived on the 15th Auguſt laſt, having in his way touched at St. Helena; he in that iſland as in other places, by his perſuaſions and perſeverance induced the Engliſh to adopt this wonderful antidote which they had undervalued during eight years, notwithſtanding it was a diſcovery made in their own country, and that Jenner himſelf had tranſmitted it to them.

That part of the expedition which was deſtined for Peru, under the direction of Salvani, was wrecked in one of the mouths of the river Madelaine; but being quickly ſuccoured by the natives, the magiſtrates of the neighbourhood and the governor of Carthagena, they ſaved the ſub-director, three phyſicians who accompanied him, and the children, with the fluid in a proper ſtate, which they ſucceſsfully ſpread in that port and province. From thence they tranſmitted it to the Iſthmus of Panama, and undertaking the troubleſome navigation of the river Madelaine, they paſſed the time neceſſary on its reſpective banks; they penetrated ſeparately into the country to fulfil their commiſſion in the towns of Teneriffe, &c. &c.; in the valley of Cucuta, and in the city of Pampelona and other populous places, till they rejoined each other at St. Fee. They gave full information to the medical men wherever they went, and laid down regulations agreeably to the inſtructions of the director, in order to preſerve the vaccine virus, which from the account of the viceroy, they communicated to 50,000 perſons without one unpleaſant accident. Towards the end of March, 1805, they prepared to continue their journey, taking different and ſeparate routs, to paſs with more expedition and facility through the other towns of the viceroy-ſhip, ſituated in the road to Popayan, Cuenca, and Quito, and ſo on to Lima; and in the following Auguſt they arrived at Guayaquil. This expedition not only ſucceeded in propagating vaccination throughout countries adverſe as well as friendly; but, in the dominions

of the king, they aſſured to poſterity, the perpetuity of the bleſſing, by the eſtabliſhment of the central ſocieties, and alſo by the diſcovery made by Dr. Balmis of the exiſtence of the cow-pox in the valley of Atlixco, near the city of the Puebla of the angels, and in the neighbourhood of the city of Valladolid de Mechoacan, where it was diſcovered by the aſſiſtant Dr. Anthonio de Gutierrez, and in the diſtrict of Calabozo in the province of Carſacas, where it was found by Dr. Carlos de Pozo, a phyſician eſtabliſhed there.

A multitude of obſervations (which will be ſpeedily publiſhed) on the means of extending vaccination in various climates, and on its efficacy, not only to preſerve from the natural ſmall-pox, but alſo at the ſame time to cure other diſorders; will ſtrongly manifeſt *the importance to humanity of an expedition which is without example in hiſtory.* Although the ſole object of it was to communicate and perpetuate this great bleſſing; yet the director omitted no means to render the expedition uſeful to ſcience and to agriculture. He brought a conſiderable collection of exotic plants; he cauſed drawings to be made of the moſt intereſting objects of natural hiſtory, and collected important facts and data; and amongſt the titles which give him a claim on the gratitude *of his* country, it is not one of the leaſt, that he has brought a valuable collection of live fruit-trees and other uſeful productions, which being propagated in correſponding climates in the (Spaniſh) peninſula, will render this expedition as famous in the annals of agriculture as in thoſe of medicine and humanity. It is hoped that the ſub-director and his three companions deſtined to Peru, to confer the ſame bleſſing, will not long delay their return by Buenos Ayres, after having completed their journey through that viceroy-ſhip, that of Lima, and the diſtricts of Chili and Charcas; and thus they will bring the collections and obſervations which they may have been able to acquire in compliance with the recommendations of the director, without ſuffering their attention to be withdrawn from the philanthropic miſſion with which they were ſo beneficently entruſted by his Majeſty for the benefit of the human race.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

Medical Graduation in the Univerſity of Pennſylvania.

AT a commencement held in the Univerſity of Pennſylvania, on the 21ſt of April, 1806, the following gentlemen were admitted to the honour of Doctor of Medicine; having previouſly defended the theſes upon the ſubjects, mentioned with their reſpective names.

1. William P. Dewees, of Pennſylvania, on the means of leſſening pain, and facilitating certain caſes of difficult parturition.

2. Robert M. Cunningham, of ditto, on the inflammatory bilious fever, as it appeared in the vicinity of Lancaſter, in the ſummer and autumn of 1804.

3. John Henry M'Farlane, of ditto, on angina pectoris.

4. Edwin L. M'Call, of Georgia, on the mutual ſubſervience of the different parts of the body, *and the power of one part to perform the function of another.*

5. Benjamin W. Dudley, of Kentucky, a ſketch of the medical topography of Lexington and its vicinity.

6. John Floyd, of ditto, an experimental inquiry into the medical properties of the magnolia tripetala, and magnolia acuminata.

7. Richard Willmott Hall, of Maryland, on the uſe of electricity in medicine.

8. William J. Selby, of ditto, on the analogy between plants and animals.

9. Lewis Creager, of ditto, on dyſentery.

10. Daniel Newcomb, of New-Hampſhire, on the different theories, that have been advanced on the ſubject of the proximate cauſe of conception in the human female.

11. Samuel Tucker, of New Jerſey, on the medical effects of bodily labour, in chronic diſeaſes, and in debility.

12. Enoch A. Green, of ditto, on the lumbricus terreſtris.

13. Joſeph Bloodgood, of New York, on hæmoptyſis.

14. John Hart, of North Carolina, on ſenſation and motion.

15. William H. Simmons, of South Carolina, on ſome of the effects of contuſions of the head.

16. Daniel D. Oyley, of ditto, on the glands, termed Veſiculæ Seminales.

17. Samuel Matthews, of Virginia, on the effects of muſic, in curing and palliating diſeaſes.

18. Charles Cocke, of ditto, an attempt to prove the identity of gout and rheumatiſm.

19. Devereux J. Claiborne, of ditto, on the uſe of artificial drains in the prevention and cure of diſeaſe.

20. Wright Tucker, jun. of ditto, on the operation of cold.

21. Jacob David Wacker, of Swabia, on hydrocephalus internus.

Obſervations on the Effect of Madder Root on the Bones of Animals. By MR. B. GIBSON. *From the Memoirs of the Literary and Philoſophical Society of Manchester. Vol.* 1, *ſecond ſeries.*

THERE is, perhaps, no phenomenon, which occurs in an animal body more curious, than the tinge communicated to the bones of living animals, whoſe food has been mixed with madder root. This, like many other facts, to which no reaſoning *à priori* could have directed us, was diſcovered by chance. Mr. Belcher, dining with a calico-printer on a leg of freſh pork, was ſurpriſed that the bones, inſtead of poſſeſſing their uſual whiteneſs, were of a deep red colour; and on inquiring the cauſe of it, was informed, that the pig had been fed upon the refuſe of the dyer's vats, and had received ſo much of the colouring matter of madder into the ſyſtem, that its bones were dyed by it. So intereſting a fact has attracted very much the attention of anatomiſts, and has been uſed in many phyſiological and pathological inquiries; it may not therefore be unintereſting to give a ſhort hiſtory of the phenomena connected with it, and the purpoſes to which it has been applied, previous to entering upon the more immediate object of this paper.

Many experiments have been made to aſcertain how long a time is required to produce the tinge, and whether it be permanent or only temporary. Belcher and Morand, about the ſame time, mixed madder root with the food of chickens and young pigeons. The reſult of their obſervations was, that the tinge was more quickly communicated to the bones of growing animals, than to the bones of animals which had already completed their growth; the bones of young pigeons being tinged of a roſe-colour in twenty-four hours, and of a deep ſcarlet in three days; whilſt the bones of adult animals only exhibited a roſe colour in fifteen days. They found the tinge moſt in-

tenſe in the ſolid parts of thoſe bones, which were neareſt to the centre of circulation; whilſt in bones of equal ſolidity, at a greater diſtance from the heart, the tint was more faint. The dye was deep in proportion to the length of time the madder had been continued, and when it was diſcontinued, the colour gradually became more and more faint till it entirely diſappeared. According to the experiments of theſe gentlemen, other vegetable dyes, ſuch as Logwood, Turmeric and Alkanet Root, did not communicate their reſpective tints to the bones.*

This effect of madder upon the bones, was ſoon afterwards made uſe of by Du Hamel, in his attempt to prove the manner in which the bones of animals are increaſed in thickneſs.—Obſerving in the vegetable kingdom, that the bark, by a ſort of ſecretion, formed the ligneous part of a tree, in ſucceſſive layers; ſo he conceived that the perioſteum, or membrane ſurrounding bones, being converted into oſſeous matter, increaſed their diameter by adding to them concentric laminæ in ſucceſſion. In order to prove the juſtneſs of his opinion, he mixed the food of a cock with madder root for a month, withheld it for a month, and then gave it again. He afterwards killed the animal, and upon inſpection thought he obſerved the appearance, which he expected; viz. two layers of red bone incloſing one of white, correſponding to the periods of the madder's being given or withheld.

* From ſome experiments I (Mr. Gibſon) made on young pigeons, I found that a conſiderable quantity of logwood, in the form of extract, communicated an evidently purple tint to the bones. With regard to tumeric it appears to be altered in its colour by paſſing through the digeſtive organs, for the fæces of the animals, who took it inconſiderable quantity, were conſtantly green: whilſt either logwood or madder root exhibited their reſpective hues after paſſing through the inteſtines. Saffron exhibits properties different from any of theſe ſubſtances; for though a pigeon took it in conſiderable quantity and thereby had its fæces tinged, yet no perceptible alteration of colour was produced in its bones.

This experiment, and ſome others related by Du Hamel, appear to be concluſive in favour of the theory, which he wiſhed to eſtabliſh; and as they were conducted by a phyſiologiſt of high character, the accuracy of the obſervations could not have been doubted, had theſe experiments ſtood alone. But when they are compared with ſome of his own previous experiments, and thoſe of other authors, it is difficult to reconcile them. In ſome of Du Hamel's experiments, for inſtance, the bones of a cock were tinged of a roſe-colour through their whole ſubſtance in ſixteen days, and thoſe of young pigeons of a deep ſcarlet in three days. In ſeveral experiments I have made on the ſubject, I have found the bones of young pigeons tinged of a uniform roſe-colour, internally as well as externally, in twenty-four hours. This communication of colour to the whole ſubſtance of the oſſeous ſyſtem in ſo ſhort a time, makes it highly improbable that the laminated appearance, remarked by Du Hamel, was produced by the new formation of red and white oſſeous layers, correſponding to the times (months) the madder had been given or withheld. For, as Mr. John Bell very juſtly remarks,* "If a bone ſhould increaſe by layers thick enough to be viſible and of a diſtinct tint, and ſuch layers be continually accumulated, upon each other every week, what kind of bone ſhould this grow to?" The only way in which we can reconcile with each other the phenomena obſerved in the different experiments, and account for their apparent contradiction, is, by ſuppoſing, that Du Hamel miſtook for an obſcurely laminated appearance, the variety in the tint, which is more deeply communicated to the more ſolid, and more faintly to the leſs compact parts of a bone.

This property of madder of tinging the bones of animals, has lately been employed by Dr. M'Donald,* in his ingenious

* Anatomy of the bones, &c. p. 15.

† Diſputatio inauguralis de Necroſi ac Callo. 1799.

reſearches into the formation and death of bones.——Amongſt other objects he attempted to aſcertain, in what manner and how ſoon, a cylindrical bone is regenerated to ſupply the place of one artificially killed. As the proceſs is highly curious, I ſhall briefly relate the principal points.

Dr. M'Donald's experiments were made by amputating the proper leg-bone of young pigeons or chickens immediately above the joint. The marrow was then extracted, and the cavity, which contained it, filled with lint. This proceſs cauſed the death of the bone, and the formation of a new bone ſurrounding that deſtroyed, enſued. Immediately after the experiment, the animal had its food mixed with madder root, and the part was inſpected in different animals, at different periods.

On examination three days afterwards, the perioſteum or enveloping membrane, was found much thickened; and underneath it a gelatinous humour was effuſed, ſurrounding the dead bone, and ſpotted with red oſſeous nuclei; proving that the regeneration of the bone had commenced at this early period.

In ſeven days the new bone was found ſoft and flexible, not to be diſtinguiſhed from cartilage or griſtle, except by the red tint the madder had communicated to it; yet the bone deſtroyed was not at all coloured, although the other bones of the animal had acquired a bright red. From this time the new bone continued to increaſe in hardneſs, ſurrounding the old one like a ſheath. The latter in about three weeks was ſo looſe as to be drawn out, and in about fifteen days from this time, the cavity of the regenerated bone was filled with marrow and in every reſpect performed the office of that, for which it was a ſubſtitute. This may be conſidered as a general outline

of the progreſſive changes, which take place during the regeneration of a cylindrical bone, in a young animal, ſuch as a pigeon, or chicken; and the ſame proceſs is frequently performed in the human body, when, from ſome internal cauſe, the life of a bone is deſtroyed. Theſe changes involve many intereſting particulars; but the circumſtance moſt immediately connected with the ſubject of this paper is, that although the ſhaft of the bone required three weeks for its renewal, yet in ſeven days the oſſeous ſyſtem generally had acquired a bright red. Now if we explain this change in colour according to the common opinion of abſorption of the white, and depoſition of the red oſſeous matter,* we muſt neceſſarily draw this concluſion; that the oſſeous ſyſtem of the animal will be renewed three times during the period, which the formation of the ſubſtitute bone requires; a concluſion which we ſhould be inclined to reject merely from its improbability. But beſides this, the appearance of the parts ſtrongly militate againſt it—for, if we may judge at all of the activity of the proceſs in the two parts, by their comparative degrees of vaſcularity, that employed in forming the ſubſtitute bone far exceeds that going on in the oſſeous ſyſtem generally; one ſtriking phenomenon attending the regeneration of a bone being, the very high degree of increaſed vaſcularity, which the parts employed in the proceſs rapidly aſſume.

After this effect of madder upon the bones was known, it long remained a myſtery, why ſome other white parts of the

* The common opinion of phyſiologiſts, with regard to this curious fact, is, that when a bone becomes red, during the exhibition of madder root, the white oſſeous particles which compoſed it, have been entirely removed by abſorption and replaced by new oſſeous matter of a red colour: and when a bone aſſumes its natural colour, theſe red particles have been removed and replaced by white. If this be the fact, it neceſſarily follows, that an animal has at leaſt fifty-two new ſets of bones in a year: for the oſſeous ſyſtem, according to the experiments of the moſt reſpectable phyſiologiſts, acquires a deep red tint from madder in one week, and aſſumes its natural colour in another.

body, ſuch as nerves, cartilages and perioſteum, were not equally liable to be coloured by it, as the bones. This fact I believe, did not receive any explanation, until Dr. Rutherford gave a very ingenious and ſatisfactory one. When ſpeaking of this property of madder, he ſays,* "We have, in the fact before us, a beautiful example of a particular caſe of chemical attraction; ſuch as in numberleſs inſtances, is obſerved to take place, between the colouring particles of both animal and vegetable ſubſtances, and various other bodies, eſpecially earths and earthy ſalts, and oxydes of metals. So ſtrong is the affinity of the colouring matter to theſe bodies, that it is frequently obſerved to quit the menſtruum, in which it may chance to be diſſolved, to unite with them: they, in conſequence of its union, acquiring a particular tinge, whilſt the menſtruum is proportionably deprived of colour.——From this principle, this mutual attraction, is deduced the various uſe of thoſe bodies as mordents, as they are called, intermedia, or means for fixing the colours in dying or ſtaining thread or cloth, whether it be compoſed of animal or vegetable materials. Upon the ſame principle depends the preparation of thoſe pigments, known to painters under the name of lakes; theſe are truly precipitates of the colouring matter, in combination with various mordents, as their baſis.—The colouring of the bones of a living animal by means of madder, is, in every circumſtance, analogous to the formation of theſe lakes. The colouring matter of madder, paſſing unaltered through the digeſtive organs of the animal, enters the general maſs of fluids, and is diſſolved in the ſerum of the blood, to which, indeed, if it be in large proportion, it communicates a ſenſibly red tinge. *But there is always preſent in the blood, and in a ſtate of ſolution in the ſerum, a*

* See Dr. Blake's inaugural Diſſertation: De dentium formatione. p. 119.—1798.

quantity of the earthy matter of the bones, phoſphate of lime, ready to be depoſited, as the exigencies of the animal may require.—Now the phoſphate of lime is an excellent mordent to madder and has a ſtrong affinity to it, and is conſequently admirably fitted to afford a baſe for the colouring matter of it ; in ſuch experiments, therefore, they concrete in the ſtate of a bright red lake, whence the colour of the bones is derived. That this is actually the caſe, may be ſhewn by a variety of experiments. Thus, if to an infuſion of madder in diſtilled water, be added a little of the muriate of lime, no change is perceived : but if to this mixture be added a ſolution of the phoſphate of ſoda, immediately a double elective attraction takes place. The muriatic acid combining with the ſoda, remains ſuſpended, or diſſolved in the water; whilſt the phoſphoric acid, thus deprived of its ſoda, combines with the lime, which the muriatic acid parted with, and forms phoſphate of lime or earth of bones. This ſubſtance, however, being inſoluble in water falls to the bottom ; but having combined at the inſtant of its formation, with the colouring matter of the madder, they fall down united into a crimſon lake; preciſely of the ſame tint with that of the bones of young animals, which have been fed with madder. From this ſimple repreſentation of the matter, we have a ready explication of every circumſtance, which has been remarked as extraordinary reſpecting this ſubject."

Whilſt Dr. Rutherford thus gives a moſt ſatisfactory explanation of the colour of madder being communicated to the bones alone, of all the white parts of an animal ; we find that he embraces the ſame opinion, as other phyſiologiſts ; that the oſſeous materials acquire their colour previous to their depoſition, whilſt in a ſtate of ſolution or mixture in the blood ; from whence they are afterwards depoſited, and concrete in the form of a bright lake. In no part of his ingenious remarks does he hint at the probability, that the bones, already formed in an

animal, may, during the uſe of madder, become red, and after its diſuſe gradually reſume their natural colour, by the agency of a power entirely independent of their depoſition and abſorption; that this is probable I ſhall now proceed to prove.

Before it was diſcovered that madder poſſeſſed this property of tinging bones, phyſiologiſts had long been of opinion, that the various parts of the body, being worn out by the performance of their actions and functions, were gradually removed, and replaced by new materials. They had ſeen, as Mr. J. Bell obſerves, the whole oſſeous ſyſtem by the morbid removal of its ſolid part, rendered ſo ſoft and flexible as to bend under the common weight of the body and ordinary action of parts; the regeneration of many bones which had been deſtroyed by diſeaſe; the rapid abſorption of fat in ſome diſeaſes, and its ſpeedy reproduction; and laſtly, the gradual change which the fluids of the body undergo, as well as ſome of its inſenſible parts, the hair and nails; hence they ſuppoſed that the ſame proceſs of change and renovation went on in every organ, and that the bodies of animals were not compoſed of the ſame identical particles, of which they would conſiſt at ſome future period. This proceſs, which was before but conjectural, or ſupported by analogy, phyſiologiſts conſidered as fully proved by the effects of madder upon the bones. They had by this means an opportunity of ſeeing the bones altered in colour, from the ſlighteſt tint to the deepeſt red; they could obſerve this gradually removed, until the bones had regained their natural whiteneſs; and explaining the whole proceſs on the principle of depoſition and abſorption, they conſidered it as ocular demonſtration of a moſt rapid change in the conſtituent elements of a part, of which, from its ſolidity, they could ſcarcely have believed it ſuſceptible.

I apprehend, however, that it is by giving an erroneous explanation of the phenomena; by ſuppoſing that a change in the

oſſeous particles is denoted by an alteration in their colour, that phyſiologiſts have conſidered this fact as concluſive. However indubitable and well ſupported may be the opinion, which attributes an imperceptible change to the various parts of the body, we ſhall, I believe, diſcover upon a more cloſe examination, that it is by no means ſupported by the appearances, which the bones diſplay on the exhibition of madder root. The rapid change in their particles, which ſuch appearances indicate, when explained in the common way, is completely at variance with all the proceſſes performed by the bones, both in their healthy and diſeaſed ſtates. Thus we find the formation of the oſſific matter, called Callus, for the union of fractured bones; or the exfoliation of a part of a bone, are proceſſes requiring a conſiderable length of time for their performance. In Dr. M'Donald's experiments, the formation of a regenerated bone required nearly ſix weeks; but during the ſame ſpace of time, the bones of the ſame animal would be renewed ſeveral times, if the common explanation of the communication and diſappearance of the tinge of madder were well founded. From theſe circumſtances, I am led to believe, that the appearances produced by the exhibition of madder, require another mode of explanation. That which I have to offer is not liable to the ſame objections, and is ſtrongly ſupported by comparative experiments.

It was obſerved by Du Hamel, in his experiments, that the bones of animals, which had been deeply tinged by madder, by long expoſure to air loſt their colour and became white. It was this fact which ſuggeſted to me a ſimple explanation of the proceſs. It occurred to me, that if any one of the component parts of the blood naturally exerted a ſtronger attraction for the colouring matter of madder, than the phoſphate of lime, it might be deprived of the tint by a chemical power. In order to prove this, as far as I could by experiment, I took one dram of the phoſphate of lime tinged, as in Dr. Ruther-

ford's experiment, and expoſed it for half an hour to the action of two ounces of freſh ſerum, at the temperature of 98 degrees. By this operation, the ſerum gradually acquired a red tinge, whilſt the phoſphate of lime, was proportionably deprived of colour. In a comparative experiment, a ſimilar quantity of tinged phoſphate of lime, was expoſed to the action of diſtilled water under ſimilar circumſtances; but no change took place. The knowledge of this ſtrong affinity, in the ſerum for colouring matter, affords an eaſy and ſimple explanation of the effects of madder on the bones, upon the principle of chemical attraction.

Thus when an animal has madder mixed with its food, the blood becomes highly charged with it, and imparts the ſuperabundant colouring matter to the phoſphate of lime, contained in the bones already formed; as it circulates through them and moiſtens them throughout. But as ſoon as an animal has ceaſed to receive the madder, and the blood is freed from the colouring matter by the excretions, the ſerum then exerts its ſuperior attraction, and by degrees entirely abſtracts it from the phoſphate of lime, and the bones reſume their natural whiteneſs. In ſhort, the bones are at one time dyed by the colouring matter, at another time bleached by the ſerum.

Whilſt I have attempted to explain the probable manner in which the bones, *already formed* in an animal, at one time receive, and at another are deprived of the colouring matter of madder; I by no means intend to aſſert, that the phoſphate of lime does not acquire a ſimilar colour during its ſolution in the ſerum, or at the time it is precipitated from it to enter into the compoſition of the bones; the fact is indiſputable. I have, however, found from ſome experiments lately made upon a hen during oviparation, that only a ſlight tinge can be communicated to the ſhell, formed whilſt a large quantity of colouring matter is circulating with the blood. So ſlight indeed is the

bluſh, that it would not be ſeen by a common obſerver, unleſs contraſted with a natural egg : which is probably the reaſon why it has, I believe, been denied by phyſiologiſts, that the ſhell of the egg is altered by the exhibition of madder. If this may be conſidered as a teſt of the quantity of colouring matter, which the phoſphate attracts at the time it is ſeparated from the blood, it forms another ſtrong argument againſt the theory, which Dr. Rutherford, and all preceding phyſiologiſts have adopted ; for, conſiſtent with this fact, the bones ſhould never exhibit more than a ſlight bluſh. When explained upon the principle of chemical attraction, we ſee that the phenomena, exhibited by the bones of an animal, by giving or withholding madder root, give no ſupport to the opinion that the various parts of the body continually undergo an imperceptible change; and I conſider it a fortunate circumſtance for that doctrine, that ſo ſimple an explanation of the effect of madder can be given. For whilſt ſo ſuſpicious a fact has been conſidered, by the higheſt authorities, as complete proof of the imperceptible renovation of parts ; the rapid change in the conſtituent elements of the bones, which the communication and diſappearance of the colour indicates, muſt have appeared aſtoniſhing to every phyſiologiſt. Of this I cannot give you a ſtronger inſtance than in the words of Mr. J. Bell.* "Nothing," ſays he, "can be more curious than this continual renovation and change of parts even in the hardeſt bones. We are accuſtomed to ſay of the whole body, that it is daily changed ; that the older particles are removed, and new ones ſupply their place ; that the body is not now the ſame individual body, that it was ; but it could not be eaſily believed that we ſpeak only by gueſs concerning the ſofter parts, which we know for certain of the bones.—When madder is given to animals, withheld for ſome time and then given again, the colour appears in their

* Anatomy of bones, &c. p. 13.

bones, is removed, and appears again with ſuch a ſudden change as proves a rapidity of depoſition and abſorption exceeding all likelihood or belief; all the bones are tinged in twenty-four hours; in two or three days their colour is very deep, and if the madder be left off but for a few days, the red colour is entirely removed."

Although by this chemical explanation of the effect of madder upon the bones, the doctrine of the imperceptible change in the component parts of animal bodies, loſes the ſupport of a fact, which has, ſince its diſcovery, been univerſally conſidered as its ſtrongeſt proof; nevertheleſs, indiſputable arguments, derived from different ſources, ſtill place that doctrine amongſt the beſt ſupported opinions in phyſiology.

Obſervations on the Effects of Dr. Fowler's *Mineral Solution in Lepra and other Diſeaſes; by* Thomas Girdlestone, M. D. *Phyſician at Yarmouth, (Great Britain). From the London Med. and Phys. Journal.*

Sir,

ALTHOUGH I had frequently uſed, with ſucceſs, the arſeniate of potaſh in meſenteric and many other ſcrofulous affections, yet your old acquaintance Mr. B. was the firſt patient on whom I tried the effects of this medicine in lepra. You remember that he had laboured for fourteen years under that diſeaſe, tried repeated ſalivations, many phyſicians, and every quack medicine, without any effect, and was at laſt cured by ſmall and repeated doſes of the arſeniate of potaſh. It is now ſeveral years ſince his cure was completed, and my experi-

ments and ſucceſs have extended to ſome hundreds of caſes of lepra, lichen, prurigo, pſoriaſis, tinea capitis, &c. &c.

My ſecond caſe of lepra proved very inſtructive to me. The patient had tried different phyſicians and quack medicines, with but little palliation of ſymptoms. After three doſes of eight drops, in twenty-four hours a lobſter redneſs came over the whole ſkin, and his face exhibited the commencement of an eryſipelatous inflammation. I deſired him to take ſome ſenna tea to relieve his bowels, and to wait till this redneſs ſhould ſubſide, and to begin with the ſolution in doſes of half the number of drops. In about two days he was able to reſume his medicine, and under the diminiſhed doſes, his diſeaſe gradually diſappeared.

The termination of my third caſe proved equally inſtructive; for on the diſappearance of the lepra, there came upon the nates large biles, which gradually dried up, and went away.

I afterwards found that the declination of cutaneous diſeaſes from this medicine, was marked ſometimes by an increaſe of the eruption, ſometimes by large biles, or fiſſures about the feet, toes, hands or fingers. One patient who had laboured for two years under a large patch of the lepra nigricans on his cheek, which had reſiſted the efforts of different practitioners, was ordered by me four drops of the ſolutio mineralis twice a day. But the firſt doſe produced the lobſter redneſs of the ſkin, a diſtention of the abdomen, and ſlight ſickneſs. He was relieved by a grain of calomel, and his lepra was afterwards cured by two drops of the ſolution, taken twice a day for ſix weeks. On a ſlight return of the diſeaſe, he reſumed the medicine in a doſe of four drops, which produced the ſame unpleaſant effects as when he tried it before in that doſe; but he

ſucceeded in his cure by the uſe of two drops twice a day, without any inconveniency.

The largeſt doſes which I ever gave of this medicine were twelve drops three times in a day; but I afterwards found that half that doſe would equally ſoon ſucceed in moſt caſes. The inſipidity of the ſolution, by itſelf, having tempted ſome to proceed beyond the doſes which I had directed, I ſoon found it neceſſary to combine this medicine, with an equal portion of tincture of caſcarilla, gentian, or cinnamon, and to caution, in the moſt particular manner, the patient from increaſing the drops beyond a certain number. For though I have ſometimes ſucceeded, in a few days, in leſſening the ſeverity of cutaneous diſeaſes, yet my experience has taught me not to look for a cure with any doſe in leſs than ſix or ſeven weeks. A gentleman, in a diſtant county, was given by a ſurgeon twenty drops of the ſolutio mineralis three times a day, for more than three months, before his lepra was taken away. The doſes appear to me to have been far too large, as it had eſtabliſhed a weakneſs on his bowels, and did not take away his lepra ſo ſoon, by four or five weeks, as the ſmaller doſes of this medicine generally do. This gentleman was afterwards troubled with nervous ſymptoms and giddineſs of the head, which had reſiſted the efforts of two phyſicians in the country, and four in London, before he became my patient. Small doſes of calomel and opium, and of ferrum ammoniacum, varied according to ſymptoms, and perſiſted in for ſome weeks, took away the diarrhœa, giddineſs, and nervous feelings, and re-eſtabliſhed his health.

I have ſtated the worſt ſymptoms which have ariſen from this medicine, under my own directions; but that ſickneſs, pain of the abdomen, naſal hemorrhage, cough, icteric ſymptoms, and dropſy, may be induced by it, I have too many opportunities of obſerving from the ſolution unfortunately having

become a very common medicine with unprofeſſional people, in curing the intermittents of children.

I ſaw one child who loſt his nails, hair, and part of his ſkin from this ſolution, which a lady had given him in improper doſes.

From all that I have obſerved of the abuſe of the arſenical ſolution, I am inclined to attribute the cough, when it ariſes, to the effects of this medicine on the liver. Too large doſes of it generally give an icteric colour to the urine; and calomel, with or without opium, I have found the beſt antidote.

In thoſe unfortunate venereal caſes, where mercury at firſt relieves, and very ſoon after aggravates the ulcerations, I have ſeen the arſenical ſolution, with ſmall doſes of opium, prevent the extenſion of the ulcers, where the nitric acid, muriate of lime, ſarſaparilla, and other boaſted remedies had no power. Under the obſervation of a cautious practitioner, mercury and arſenic may be made alternately* to aſſiſt each other in the cure of many diſeaſes. So far from arſenic inducing conſumption, when adminiſtered in proper doſes, I can produce the evidence of the remains of a conſumptive family, who owe their exiſtence, for theſe laſt ſeven or eight years, to the arſenic, which Dr. Beddoes gave them. One of the ſiſters had died in this county, and the other at Briſtol; and the reſt were labouring under the ſame ſort of meſenteric affections, as preceded the ſymptoms of phthiſis pulmonalis of thoſe who died, when Dr. Beddoes *gave* the arſenical ſolution, and reſtored them to health.

* By *alternately*, in the above ſentence, I mean, not that each medicine ſhould be given by turns, through the ſame days; but that when one medicine has been tried for ſome days or weeks, the other may be ſubſtituted, and perſiſted in, till the firſt may again become neceſſary.

Though I have generally ſucceeded in curing many cutaneous diſeaſes, and moſt caſes of lepra, yet in ſome the diſeaſe has returned. It has, however, generally returned in a ſlighter degree, and yielded to a ſimilar courſe of treatment. I have invariably found the truth of Dr. Falconer's remark, that the lepra is firſt brought on by the ſudden application of cold to the body when it is in a heated ſtate. And to the ſame cauſe, I believe, may be traced many of the relapſes. The cautions which I think neceſſary in the adminiſtration of the arſeniate of potaſh are theſe.

To begin with it always in the ſmalleſt doſes, and never to increaſe the doſe beyond five or ſix drops three times a day; and to perſiſt only in ſuch doſes as can be taken without any inconveniency. In children, the doſe ſhould only be from one to two, three, or four drops, once or twice in a day.

The ſafeſt method of giving this medicine is in drops; and in order to prevent it from becoming a common and conſequently a diſgraced medicine, it is neceſſary to combine it with an equal portion of ſome harmleſs tincture, as of caſcarilla, gentian, or cinnamon, &c. and the drops may be ordered to be taken in a decoction of ſarſaparilla or mixture with tincture of cardamoms, or any other ſpicy tincture.

In cutaneous diſeaſes ſome patients are too coſtive, and ſome are too much inclined to purge. The arſenical ſolution alone is ſometimes ſufficient to regulate the bowels; where that is not the caſe ſome addition may be neceſſary. To the coſtive, calomel may become neceſſary. To thoſe whoſe bowels are too much relaxed, the fourth of a grain of opium, or leſs, given once, twice, or thrice in a day, may aſſiſt the ſolution.

Where the itching of the ſkin is ſo very troubleſome, hydrarg. muriat. diſſolved in aqua roſæ, or aqua calcis, will

often afford relief. And in the prurigo ſenilis, or herpes ſenilis, the waſhing the ſkin every night and morning with warm water, and the ſtrict attention to an anti-dyſpeptic diet greatly aſſiſt the medicine.

I have for ſome time uſed the ſolutio mineralis in caſes of tape-worm. That this medicine, with the uſe of purgatives, brings away larger portions than any purgative medicine does without it, my preſent experience leads me to believe. And I have found the ſolutio mineralis a moſt powerful deſtroyer of the aſcaris lumbricoides. It requires ſo many months to be ſatisfied that the tape-worm is killed, that a longer time muſt paſs away before I am able fully to appreciate the powers of arſenic over this diſeaſe. But as the tænia oſculis marginalibus appears to be an indigenous diſeaſe, in and about Yarmouth, I have a good opportunity of extending my experiments. My ſervants once found this worm in a rabbit, and once in an eel; in dogs it is very common. We have lakes about Yarmouth, but I find as many of the inhabitants who uſe pump water, as thoſe who uſe the water of the open wells, labour under this diſeaſe.

I am, &c.

THOMAS GIRDLESTONE.

Yarmouth, Feb. 20, 1806.

Vegetable Galvaniſm.

THE fact ſeems to have received confirmation, that the Galvanic principle, like *caloric*, is contained in every thing throughout nature, and, like caloric alſo, is generally ſo diſ-

poſed, that, any two ſubſtances being brought into contact, it paſſes from one to the other, ſo as to be in equilibrium; or, in other words, the attractive forces between the Galvanic fluid and the different bodies in which it exiſts, are ſeldom equal. Accordingly, Baronio, of Milan, has lately conſtructed a pile of diſks entirely of vegetable matters, as horſe-radiſh root and beet root; by which a prepared frog was affected as uſual by a metallic pile.

Med. and Chir. Rev.

Extracts from a Review of Dr. Sutton's "*Practical Account of a Remittent Fever.*"*

THE author is particular in remarking, that the ſtate of the pulſe, or the general proſtration of ſtrength that takes place from the beginning, ought not to be conſidered as contra-indicating the uſe of the lancet; for that after bleeding, the pulſe, from being ſmall, feeble, and intermitting, often became full and regular; with equal relief to the debility and proſtration of ſtrength.

In ſome caſes, the pain in the thorax and the general uneaſineſs appeared to be increaſed after bleeding; but this was aſcribable to the patient being rouſed from a ſtate of torpor and inſenſibility to the oppoſite ſtate, and therefore, ſo far

* Theſe extracts will ſhew, that the ideas of a *depreſſed ſtate* of the ſyſtem, ſo well underſtood in this country, are beginning to gain ground in England, where heretofore it was ridiculed and even abuſed, as evidenced by the unwarranted cenſures thrown by the Edinburgh reviewers on Dr. Jackſon ſome time paſt.

Editor.

from affording a reaſon againſt blood-letting, was an additional argument for a repetition of it.

A buffy appearance of the blood was not waited for, as a proof of the propriety of bleeding, as it was often not met with on a firſt or ſecond bleeding in the moſt inflammatory caſes, yet might ſhew itſelf on a further repetition of the operation. A ſtriking inſtance is given of the truth of this obſervation. "The firſt blood drawn from a particular patient was twenty ounces, rather tough: he was again bled the ſame day to ſixteen ounces, and the blood appeared in every reſpect natural. On this account, blood-letting was not had recourſe to for three days, during which time the ſymptoms increaſed, and became very alarming. It was now thought adviſable to bleed to thirty ounces: the blood was very buffy. The ſymptoms from this veneſection were mitigated for a ſhort time, but became very violent in the courſe of the following day, when the patient was again bled to thirty ounces, and from that time rapidly recovered."

When the tongue in fever caſes becomes brown, it is by ſome deemed an act of temerity to draw blood, as this appearance is ſuppoſed to indicate a fever of the typhus kind, and conſequently not to admit of blood-letting. The following caſes prove that this appearance ſhould not always diſſuade from the operation.

"On the fifth day of the fever, after *four veneſections*, *three* to the extent of *twelve ounces* each, and one to *fifteen ounces*, the patient was in the following ſtate: his tongue rather brown; nauſea and vomiting; ſkin very hot; delirium; breathing ſhort; pulſe 120; expreſſed himſelf free from pain. In this ſtate blood was drawn to *thirty ounces*. On the following day the report was, blood buffy; pulſe ſoft; tongue moiſt, and not ſo brown; ſkin cool; vomiting abated. The patient, in five days

after this period, was in a ſtate of convaleſcence.—In another caſe, pulſe contracted; tongue rather brown; delirium. The patient was bled to *fourteen ounces*. On the next day, the blood was tough; the delirium abated; the patient finally recovered.—In another caſe, on the fifth day of the diſeaſe, the tongue appeared brown and dry; the pulſe 120, very full; great pain in the head; breathing ſhort; ſlight cough; the patient felt faint and very debilitated upon riſing; blood was directed to be drawn to *thirty ounces*. In the courſe of a few hours the report was, blood very buffy; pulſe ſofter, but ſtill full; breathing eaſier. This patient was afterwards repeatedly bled, and recovered."

There were ſome caſes of this fever which did not ſeem to be equally benefited by blood-letting; namely, where the affection of the breaſt was of an aſthmatic or catarrhal kind, and when the diſeaſe had taken on the dyſenteric form.

The free uſe of the lancet here inculcated, in the treatment of a fever having ſo many of the eſſential characters of typhus, will, no doubt, ſtartle a great many; and ſome, poſſibly, will be induced to queſtion the authenticity of the narration. But we ſee not the leaſt foundation for a ſuſpicion of this kind, when the reſpectability of the author is conſidered; and when it is conſidered, further, that the treatment recommended was actually adopted in a public hoſpital, open, of courſe, to the inſpection of numerous obſervers, capable of detecting any inaccuracy in the reports. However ſingular the practice may appear, it is entirely in uniſon with that inculcated by Dr. Jackſon, and a few other authorities of no trifling weight.

The author himſelf ſeems to feel a difficulty in accounting for the ſucceſs reſulting from his bold practice, in a diſeaſe ſo ſtrongly reſembling typhus; and is induced to ſuppoſe that the reſemblance was apparent only, the diſeaſe in reality belong-

ing to the claſs of inflammatory fevers, with ſomewhat of a remittent form. But although the diſeaſe has been termed by the author a *remittent* fever, it has little or no analogy with the ordinary remittent fever deſcribed by authors, and appears, indeed, to be no more entitled to this denomination than almoſt any other; for no fever proceeds through its courſe without ſome degree of exacerbation and remiſſion within the ſpace of twenty-four hours. The diſeaſe appears to us to have been merely typhus complicated with more or leſs of topical inflammation of the viſcera of the thorax; a combination extremely common in cold and temperate latitudes. Whether the acceſſory affection, the topical inflammation, was the circumſtance that determined the propriety of veneſection to ſuch a liberal extent, or whether typhus itſelf, under certain circumſtances, may not admit the uſe of the lancet, we ſhall not preſume to decide. We ſee nothing monſtrous, however, in the latter ſuppoſition.

The real utility of blood-letting, in the diſeaſe here deſcribed, is ſhewn unequivocally by the following comparative ſtatement:

"In one inſtance of the occurrence of this diſeaſe, when treated as typhus, out of thirty-ſeven patients received into the hoſpital eleven died.

"In another, where the ſame treatment was purſued upon a moderated plan (that is to ſay, without preſſing the uſe of the bark, opium, wine, &c. in the early ſtage of the diſeaſe), out of ninety-two patients eighteen died.

"In another, in which the diſeaſe was treated as ſynochus, where moderate bleeding and evacuants were employed in the beginning of the diſeaſe, and the uſual remedies for typhus were afterwards reſorted to, the mortality was upon the average of three in twenty.

"By the treatment in which veneſection has been relied on as a principal remedy, the greateſt average of deaths, in any of the inſtances in which that plan of cure has been adopted, does not exceed one in twenty."

Med. and Chir. Rev.

Of the ſuppoſed Decompoſition of Muriatic Acid.

M. *BIOT*, in conjunction with ſome other members of the *French National Inſtitute*, was lately appointed to examine and repeat the experiments of M. *Pacchiani* of Florence, and Mr. *Peel* of Cambridge, who imagined they had diſcovered the component parts of the muriatic acid; a ſubſtance which, from the fruitleſſneſs of all attempts that had been before made to decompoſe it, was ſtill ranked among ſimple bodies. In a report read by M. *Biot* on the ſubject, at the *Natural Hiſtory Society* of Geneva, he aſſerts that M. *Pacchiani*, as well as the Engliſh experimenter, were deceived; and maintains that, if the experiment mentioned by theſe gentlemen is made with every precaution neceſſary to exclude the preſence of ſea ſalt, no muriatic acid will be found in the product.

Med. and Chir. Rev.

*Analyſis of Dr. James's Powder.**

M. *CADET*, an apothecary of Paris, after obſerving that the analyſis of James's Powder (here called Poudre de Gyms) publiſhed ſome years back by Dr. Pearſon, will not enable any one

* From Ann. de Chym. No. 163, tom. lxv.

to imitate this celebrated compound,* communicates a proceſs from a M. *Pulley*, a chemiſt of Naples, who aſſerts that he has perfectly analyzed the Powder, and diſcovered a method of forming it ſynthetically.

Analyſis.

1. The Powder, as procured from London, was infuſed in hot diſtilled water; the water was then ſeparated by the filter, and, being afterwards evaporated, it yielded a ſalt having all the characters of ſulphate of potaſh. This ſalt, treated with barytes, gave a precipitate of ſulphate of barytes.

2. It having been perceived, previous to the decompoſition of the ſalt by barytes, that the ſolution contained an exceſs of free potaſh; in order to aſcertain whether this potaſh did not hold a ſmall quantity of oxide of antimony in ſuſpenſion, the liquor was decanted, to ſeparate the ſulphate of barytes, and then impregnated with ſulphurated hydrogene, which immediately formed *ſulphur auratum antimonii.* The potaſh, therefore,

* Dr. Pearſon demonſtrated *James's Powder* to be a triple ſalt, compoſed of phoſphate of lime and oxide of antimony. The proceſs ſuggeſted by him for preparing it, was, as is well known, adopted by the London College, under the title of *Pulvis Antimonialis;* it is inſerted, likewiſe, in the laſt edition of the Edinburgh Pharmacopœia, under the name of *oxidum antimonii cum phoſphate calcis.* Although the *pulvis antimonialis* is in all probability eſſentially the ſame with *James's Powder*, there is certainly a conſiderable difference in regard to the doſes of the two; the former being of nearly double the ſtrength of the latter. It might be worth while, therefore, to make trial of the proceſs here recommended.

Monſieur *Cadet* expreſſes his ſuſpicion, that Dr. Pearſon *deſignedly* concealed the true compoſition of James's Powder, being unwilling to betray a ſecret of ſo much advantage to his country *(pour ne point trahir un ſecret lucratif a ſon pays)!!*

was combined with a portion of antimony at the *minimum* of oxidation.

3. The waſhed Powder (1) was heated with nitric acid, which diſſolved the phoſphate of lime, without attacking the oxide of antimony. This oxide (which was at the *maximum* of oxidation) was ſeparated from the ſolution: ammonia was then poured into the liquor, and precipitated the phoſphate of lime.

4. The phoſphate of lime was decompoſed by weak ſulphuric acid, and afterwards re-compoſed, in order to aſcertain the proportions.

5. The *maximum* oxide of antimony was diſſolved in muriatic acid. This ſolution, treated by ſulphurated hydrogene, gave a hydro-ſulphuret of antimony, containing more ſulphur than the *kermes mineral*, and leſs than the *ſulphur auratum*.

According to this analyſis James's Powder conſiſts of

Oxide of antimony at the *maximum* . . .	7
Phoſphate of lime	4
Sulphate of potaſh	4½
Free potaſh, holding oxide of antimony at the *minimum*	3½
	19

Syntheſis.

To recompoſe this Powder, take

Sulphuret of antimony (crude antimony) . .	2 parts
Calcined phoſphate of lime	1½
Nitrate of potaſh	4

Pulverize, mix, and triturate theſe ſubſtances; then heat them ſtrongly in a covered crucible. During this operation, the

oxygene of the nitric acid, combining with the ſulphur of the ſulphuret of antimony, converts it into ſulphuric acid, which, uniting with a portion of the potaſh, forms ſulphate of potaſh: the reſt of the diſengaged potaſh retains antimony oxidated at the *minimum*. The white powder which remains in the crucible is the ſame ſubſtance, M. *Cadet* ſays, as the *James's Powder*.—M. *Pulley* aſſerts that he has analyzed the powder prepared in this manner, and found it to contain the ſame principles, and in the ſame proportions, as the *James's Powder* procured from London.

Med. and Chir. Rev.

Extract of a Letter from Prince Ypſilandy, Hoſpodar of Wallachia, to DR. DE CARRO, *of Vienna; on the Plague.*

"*Bucharеſt, July 25th*, 1804.

I RECEIVED the letter you did me the honour to write, the ſeventh of April, with the accompanying work. I have read the whole with that lively intereſt which ſcience and courage, when employed in the ſervice of humanity, never fail to inſpire. After having given ſo great an example of your confidence in the vaccine, it was well worthy the extent of your ideas, to attempt the diſcovery of a preſervative againſt one of the greateſt ſcourges on the face of the earth. But you know that I inhabit a country where it is too eaſy to make obſervations on the plague. I have ſeen this capricious diſeaſe aſſume all characters, and produce accidents of the moſt oppoſite kind. Frequently, it manifeſts itſelf under the appearance of an inflammatory fever, exhibiting at firſt all its ſymptoms; ſo that phyſicians, even of experience, have been ſtrangely deceived in preſcribing blood-letting, which produ-

ced fatal effects. Sometimes it announces itſelf from the beginning by gaſtric ſymptoms *(gaſtriciſme)*, carrying with it the ſign of a putrid leaven, which infects the whole alimentary canal, and afterwards attacks the nerves, and gives the diſeaſe the character of deſtructive malignity. Other peſtiferous patients are ſometimes ſeen with no other ſymptom than general uneaſineſs, and extreme feebleneſs in all the limbs; ſo that the phyſician is induced to conſider it as a low fever, that attacks the whole nervous ſyſtem. From this proteiform variety of ſymptoms one muſt ſuppoſe that the peſtilential miaſmata, when introduced into the maſs of fluids, become amalgamated with them, and produce ſymptoms according to the idioſyncraſy of the patient; and that therefore no ſingle remedy, nor uniform mode of treatment, whether preſervative or curative, can be applicable.

"M. *Valli*, in his journey to Bucharеſt, confeſſed to me that his experiments with the vaccine taught him nothing. The idea of preſerving people from the plague by its own poiſon, promiſes ſtill leſs ſucceſs; ſince it is exceedingly common to ſee perſons who have been cured of the plague ten times, die of it the eleventh.

"Do you wiſh for an inſtance of the capriciouſneſs of this diſeaſe? take this one. The Imans exerciſe acts of charity with the moſt religious fervour. One may obſerve ſome of them, after having waſhed, wiped, and buried thouſands of peſtiferous perſons, without experiencing the leaſt accident, ſeized with it, and die at the time when they were the leaſt expoſed to the contagion. I am of opinion that the beſt thing that has yet been done with regard to this diſeaſe, is the eſtabliſhment of lazarettoes, which cannot too much engage the attention of Governments."

Med. and Chir. Rev.

Of the Nature of the Mephitic Air of Privies.

M. DUPUYTREN lately communicated an intereſting memoir to the Society of Medicine of Paris, relating to the ſuffocation of three workmen in a privy in that city. The place where the accident occurred had been emptied a few days before, without any injury to thoſe employed. Two days after, ſome workmen went down to examine the ſtate of the place, and found ſome water in it: but they ſuffered no inconvenience. After two days further, a maſon deſcended, in order to judge of the repairs that might be required: he perceived a ſtrong odour, with a greater accumulation of water; he returned, however, without having ſuffered the leaſt inconvenience, and promiſed to go down again the ſame evening. Accordingly, about nine o'clock, he went into the vault, but was inſtantly ſuffocated. A lad who was ſtanding by, obſerving the accident, went down to endeavour to draw him out, but was alſo immediately ſuffocated by the vapour. Another making a ſimilar attempt, met with a ſimilar fate. A fourth workman, as intrepid as the former, at a quarter before ten, made another effort to reſcue the unfortunate people, but immediately as he entered, began to be affected in the like manner, demanded to be drawn up inſtantly, and fell into a ſtate of ſlight aſphyxia. It was not till a quarter paſt ten o'clock that theſe unfortunate people were extricated, and that by means of hooks. One of them, the laſt that deſcended, and who had fallen with his face towards the floor of the place, was quite dead: the other two were carried to the Hotel Dieu. One of them, nineteen years of age, had entirely loſt his faculties: he ſtruggled, made ſtrong efforts to get up, and ſeemed deſirous of ſpeaking. His face was ſprinkled with cold water, alkohol, vinegar, or ammoniac diluted with water. His movements were irregular and ſpaſmodic; the abdomen was painful to the touch, and greatly ſwollen; he breathed laborioufly, with

moaning: the pulſe was ſmall and irregular. The veins of the neck and face were greatly diſtended; and the whole body was of an icy coldneſs.

The other patient, thirty-nine years of age, exhibited nearly the ſame train of ſymptoms, except that the eyes in this caſe were open, ſtaring, and fixed, and the tunica conjunctiva exceedingly red, which was not the caſe in the other. There was likewiſe no diſtention of the abdomen; the limbs were more rigid, and the pulſe was ſtronger.

A variety of remedies were adminiſtered to both, but without ſucceſs. The one died eight hours, the other eighteen hours after the accident. On opening the bodies, much ſulphurated hydrogen gas was found in the inteſtines of both of them, and a ſtrongly marked inflammation of the larynx, trachea, bronchia, and their ramifications, was obſerved. In the one that lived the longeſt, there was found, beſides, a very delicate new-formed membrane lining the aerial paſſages.

M. *Dupuytren*, determined to inveſtigate the nature of the gas which had proved ſo deſtructive in theſe caſes, boldly deſcended into the vault, when he immediately felt a ſenſe of general uneaſineſs, a pungent irritation of the eyes, pain in the head and throat, with extreme laſſitude of the limbs; nevertheleſs, he remained above half an hour, and brought with him for examination ſeveral bottles filled with the air and water of the place. The place emitted an inſupportable ſtench of ſulphurated hydrogen, and both the walls and the ſurface of the water were covered with a whitiſh cruſt, that had all the appearance of ſublimed ſulphur.

As nothing but air and water were contained in the privy at the time of the accident, it appeared probable that the water

which had drained in through the looſe walls and flooring was the cauſe which rendered the air mephitic. In order to determine this point, M. *Dupuytren*, aſſiſted by M. *Thénard*, made a ſeries of experiments, which afforded the following reſults.

The air and water were found to be equally charged with the hydro-ſulphuret of ammoniac; and as the water contained no other matters ſuſceptible of the gaſeous ſtate, it appeared probable that the aſphyxia was occaſioned by this peculiar gas. In order to convince themſelves of the truth of this ſuppoſition, various animals were ſubmitted to the action of the air taken from the place, and were almoſt inſtantly deſtroyed by it: preciſely ſimilar effects were produced by the hydro-ſulphuret of ammoniac, artificially prepared.

Deſirous afterwards of knowing what would be the effect of the elements of this gas on animal life, ſeveral animals were made to breathe, in ſucceſſion, hydrogen gas, ammoniacal gas, and ſulphurated hydrogen: the hydrogen did not prove fatal when mixed with even but a ſmall proportion of atmoſpheric air; the ammoniacal gas, in a large proportion, only acted as a powerful ſtimulant; but the compound of hydrogen and ſulphur conſtantly proved fatal to birds, when applied in the proportion of only one to a thouſand of atmoſpheric air, and to dogs and other large animals in doſes of $\frac{1}{300}$, $\frac{1}{200}$, and $\frac{1}{100}$: the ammoniac, inſtead of augmenting the deleterious qualities of the ſulphurated hydrogen, ſeemed rather, in a ſmall degree, to leſſen them.

After having determined the nature of the gas that had occaſioned the ſuffocation in theſe caſes, M. *Dupuytren* endeavoured to diſcover the beſt means of deſtroying it; this he found to be effected by the oxy-muriatic acid gas. The action of theſe two gaſes on one another is ſo rapid, that they decom-

poſe each other completely at the inſtant of coming into contact. The oxygen of the acid unites with the hydrogen of the mephitic gas, and forms with it water, while the ſulphur is precipitated; and the oxy-muriatic acid, being converted to the ſtate of ſimple muriatic acid, combines with the ammoniac, forming a ſalt which cryſtallizes on the ſides of the veſſel. A number of animals were ſubmitted to mixtures of common air, ſulphurated hydrogen, and oxy-muriatic acid, in various proportions; but were never found to be in the leaſt incommoded by them.

Not only may the deleterious effects of ſulphurated hydrogen be prevented by the oxy-muriatic acid gas, but, when they have been produced, may be often remedied by the ſame agent; for animals that had been apparently killed by the mephitic air, were recalled to life, by being made to reſpire air charged with very minute quantities of the oxy-muriatic acid gas.

M. Dupuytren adviſes, that, in the conſtruction of privies, there ſhould be two openings at the oppoſite ſides of the place, in order that a current of air may be formed when they are emptied; and he recommends, further, that a great quantity of the oxy-muriatic acid gas ſhould be diſengaged at the time, as a certain means of preventing both the danger and the noiſome ſtench that attends the operation.

Med. and Chir. Rev.

Of the Quantity of Potaſh contained in, or producible from, different Kinds of Wood.

It is found that one hundred pounds weight of wood ſufficiently dry for burning, yields only a thirtieth part of aſhes, or

lb 3.3 ; and the aſhes afford one-fifteenth their weight of alkali. In other words, a buſhel of aſhes yields only four pounds of alkali; but to make a buſhel of aſhes, lb 1800 of wood are required. Thus no more than 1-450th part of the weight of wood burnt is potaſh.

But potaſh is only afforded to this amount by the incineration of certain kinds of wood favourable to its production; for there are other kinds of wood which yield none at all. The trees which produce moſt of this alkaline ſalt in the American foreſts, are birch, maple, baſs (tilia), oak, and hiccory. The trees which abound in gummy and reſinous matter, as the pine, cedar, and other woods of that kind, give little or no alkali. Their carbon, inſtead of concreting with the other elements into potaſh, flies off in conjunction with oxygen, or collects into lamp-black; and ſcarcely any aſhes, or a veſtige of potaſh, is to be found.

Med. and Chir. Rev.

Method of obtaining Pruſſic Acid in a pure State.

Pruſſic acid, according to Dr. *Schauh*, a German, may be obtained in a perfectly pure ſtate, by pouring upon one part of Pruſſian blue half as much ſulphuric acid, diluted with an equal quantity of water; and ſubſequent diſtillation. The pruſſic acid alſo paſſes over in alkohol. Its odour greatly reſembles the water of the *Lauro-ceraſus*, and, like it, is a deadly poiſon to animals. It has been proved, indeed, by the experiments of M. *Schrader*, a chemiſt and apothecary of Berlin, that this acid is actually contained in the laurel water, in the infuſion of peach leaves, in bitter almonds, and in various other vegetables;

and it is highly probable that theſe ſubſtances owe their deleterious properties to the preſence of this acid in their compoſition.

Med. and Chir. Rev.

Solution of Sulphur in Æther.

M. FAVRE, in *Van Mons'* Journal de Chymie, has ſhewn that ſulphur is ſoluble in ſulphuric æther, by being digeſted for the ſpace of a month, in the proportion of thirty-eight grains to an ounce. Alkohol, with the aid of heat, diſſolves only twenty-three grains.

A method is thus afforded of adminiſtering ſulphur in a ſtate of extreme diviſion, and free from the abominable odour that attends it when diſſolved in oils. The ſolution in æther, it is ſaid, has neither bad taſte nor ſmell, and mixes readily with draughts. It alſo forms an excellent teſt for detecting the preſence of lead in wines. M. *Favre* mentions that he has uſed it with ſucceſs as a medicine in diſeaſes of the breaſt and ſkin.

Med. and Chir. Rev.

Extract of a Letter from DR. WILLIAM JONES *to the Editor, dated Owego Village, Tioga County (N. Y.) March 4th,* 1806.

"I HAVE lately operated upon a cow labouring under the dropſy, and drew off 20 gallons. She was unable to riſe when I firſt ſaw her, and ſhe died the fourth day after the operation: at this time I found eight or ten gallons more in the abdomen.

"I have in my poſſeſſion the ſkin of a lamb ſomething ſimilar to that mentioned in Vol. II. No. 2. of the Medical Muſeum: mine has ſeven legs (the ſkin of one of the fore legs contained the bones of two) two bodies, two tails, one neck and head:

the bodies were united at the breaſt. This lamb was yeaned laſt ſpring, and the owner of the ewe informed me that it lived about an hour, and made ſeveral attempts to get upon its feet—I did not ſee the body, and the thorax was never examined."

Extract of a Letter from a Gentleman in London to the Editor.

"We* had much converſation reſpecting what is called the yellow fever with you, and the different iſlands in the W. Indies; and the many inſtances that have occurred to have propagated it here, notwithſtanding every poſſible precaution of ſevere Quarantine, had it been contagious *ſui generis;* from all which, the Board (of Health) are confirmed that it is not contagious; but ſeem to agree with you in your late letter to me on this ſubject, that it is the higheſt grade of the Bilious fever, not communicable but in cloſe confined city atmoſpheres, and *not generated from importation,* &c. &c. &c."

CORRESPONDENCE.

Letter to the Editor, from DR. FFIRTH, *in Anſwer to a Review of his Theſis on "Malignant Fever," in the 1ſt Vol. of the Phil. Med. Muſeum.*

Madras, Sept. 14, 1805.

SIR,

I HAVE lately been favoured with a ſight of your publication, and in peruſing it, perceived that you have done me the honour of reviewing my treatiſe on malignant fever, publiſhed in 1804. I was much ſurpriſed at your obſervations, on particular parts thereof: but flatter myſelf, that, as the "Muſeum" is the vehicle for literary information, as well as the critical re-

* One of the members of the Britiſh Board of Health, and the writer of the letter.

marks of the editor, that you will give a place to my defence, and thus allow me to ſtand upon equal ground, before the public, with yourſelf.

In the firſt place, after mentioning the title of my work, &c. you obſerve, page 114, "It might have been more generally intelligible, if this gentleman had informed us in plain Engliſh, (as his aſſociates of the medical caſs have moſtly done) that he is an honorary member of the Philadelphia Medical Society." True ſir, as you ſay "it might have been," but it alſo might not have been; at all events I beg leave humbly to ſuggeſt, that it was not of much conſequence the one way or the other, as no utility could be derived from underſtanding it, and no diſadvantage accrue from not being acquainted therewith: what then was the object? What the utility of your remark? *None:* and if none, why was it made?

In page 119 of the firſt number, after mentioning the experiment of ſwallowing two ounces of black vomit, you obſerve in a note below, "this experiment, which I had an opportunity of ſeeing the author make, I muſt conſider as unneceſſary as it was diſguſting. After the proof of its harmleſs nature upon animals, it required only a very ſtrong ſtomach to extend it to the human ſubject." You are, ſir, certainly at liberty to conſider any thing you chooſe; but you undoubtedly knew, as every ſcientific phyſician muſt know, that there are certain things which affect the human body, that will not affect quadrupeds, and vice verſa. It is well known that the matter of variola, of lues, &c. &c. &c. produces diſeaſe and death in man, while it is harmleſs to other animals.

Nux vomica deſtroys dogs quickly in very ſmall doſes, yet it is a valuable tonic medicine in certain diſeaſes of man; I have uſed it to the extent of three gains, thrice a day, in intermittent

fevers, not only with impunity, but with the happy effect of curing my patients, and this in caſes were the cinchona and arſenic had failed. If given in this doſe to dogs, death would have been the conſequence. The habits, cuſtoms, conſtitutions &c. of men and quadrupeds are ſo widely different, that the proof of any ſubſtance being harmleſs to them is not ſufficient data whereon to reaſon, that it is equally inoffenſive and innoxious to man.

Many other ſubſtances could be mentioned, but it would only extend my letter, without being of any advantage to ſcience or the public, as every phyſician's obſervations will afford numerous facts on this ſubject. How could I tell *à priori* but this was the caſe with the black vomit? It might have been innoxious and mild to brutes, yet deleterious and baneful to man; though it produced no bad effects upon them, it might have induced diſeaſe and death in me: its innoxious nature could only be proved completely by this experiment; *it was therefore neceſſary, it was uſeful.*

Analogical reaſoning is always more or leſs fallacious, and never to be relied on when it is in our power to have direct: this every experimenter, this every philoſopher, will admit.

You are pleaſed to ſay the experiment was "diſguſting," as well as "unneceſſary:"—to a belle or petit-maitre, it certainly would be extremely ſo; but to a perſon anxious for the inveſtigation of truth, nothing having a tendency thereto, or in any way to elucidate the ſubject, ought to be conſidered as ſuch; every thing which has this object in view ought to be encouraged. Such reflections are of no uſe, they will neither prevent the advances of ſcience in a mind ardent in the inveſtigation of phyſical cauſes, nor will they accelerate the progreſs of the experimenter. It is my opinion, it is the opinion of the moſt learned and beſt men, that the progreſs of ſcience tends to the extenſion of human

happineſs ; every thing therefore having a relation to this, whether it be diſguſting or not, is laudable.

You obſerve, in a note to page 238 of the firſt volume, ſeveral errors in the printing of the theſes. More attention ſhould be paid, you ſay, to theſe ſmall treatiſes. True, ſir, but I can only ſay, that, in my caſe, it was not owing to want of inclination, &c. but, as you well know, to want of time : few young men are ſituated as I was in ſuch a caſe, having the care of a large, uſeful, and reſpectable inſtitution, and the buſineſs of an arduous profeſſion to attend to; I had great inclination, but little leiſure, to pay proper attention to the printing of my theſis: therefore that errors ſhould exiſt I am not ſurpriſed, but, that ſo few are found, I am aſtoniſhed.

By our errors being ſhewn we learn in future to avoid them; criticiſms therefore are uſeful, and I hope always to profit by judicious ones: as ſuch I conſider *only* the laſt, and for it return you my thanks; permit me, however, to ſuggeſt to you the example of Horace, where he ſays,

——————Non ego paucis
Offendar maculis, quas aut incuria fudit
Aut humana parum cavit natura———

Ars Poet. 351 v.

and to remind you that in criticiſing any work we ſhould remember the opinion of the juſtly celebrated Mr. Pope, who inſiſts that,

Who e'er expects a faultleſs piece to ſee,
Expects what ne'er was, is, nor e'er will be,
In every work regard the writer's end,
Since none can compaſs more than they intend.

In giving a quotation from the 31ſt page and 4th line of my treatiſe, you appear to have miſunderſtood my meaning, for, ſpeak-

ing of my mode of treatment, you obſerve, that "I never knew a ſtrong infuſion of tobacco when given as an enema to fail." In this caſe I alluded to the procuring an evacuation from the inteſtines, and not as you ſuppoſed to curing the diſeaſe: that it will fail in achieving a cure is certain, every perſon admits this; but if adminiſtered ſufficiently ſtrong, it will produce catharſis very generally, nay always, according to my experience: as to the injury you have ſeen it do, and the caution you recommend, I ſhall only obſerve, that in my practice I never ſaw it do harm; it certainly ought to be preſcribed judiciouſly, and with care: every phyſician muſt regulate the quantity according to the beſt of his judgment, the condition of his patient, &c. &c. To preſcribe a preciſe quantity to be uſed in every caſe, is improper; circumſtances alone can determine—I am averſe to fixed preſcriptions and doſes uſed often without proper attention to the ſtate of the ſyſtem, therefore did not mention the quantity uſed, as in few caſes was it ordered in the ſame proportion, I always accommodated it to the excitability and varying ſtate of the ſyſtem.

I am happy to hear that Dr. Keutſch has been ſucceſsful in curing the fever, incident to the Daniſh Weſt India Iſlands, by frictions with oil. I was led to employ it in the epidemics of 1802 and 1803, from conſidering the affinity of the diſeaſe to the plague, and Mr. Baldwin's having aſſerted that it was uſeful in that diſeaſe: the ſucceſs which attended my firſt trial, encouraged me to proceed, I accordingly uſed it in a number of caſes with the happieſt effect; and in the winter of 1803—4, read a memoir on the uſe of olive oil in the cure of diſeaſes, to the Philadelphia Medical Society, in which I related a number of caſes, where it, alone, was uſed ſucceſsfully in a very high grade of malignant fever.

It appears from a communication in the Philadelphia Medical and Phyſical Journal, that Dr. F. D. Meyer, of St. Thomas's, has uſed the ſame medicine with great ſucceſs in the yellow fe-

ver of that iſland. From the ſucceſs attending its uſe in the caſes related by Dr. Keutſch, in Dr. Meyer's practice, and in mine, I am induced to believe that its uſe will become more general: although, as you are pleaſed to obſerve, it is "a remedy not adapted to the purſes of the poor," if it is found as uſeful in the hands of others as in ours, and of this I have no doubt, it will be the duty of the public, a duty ſacred to humanity, to adapt the purſes of the poor to it, if, as you remark "it is not adapted to their purſes."

Believe me to be, with ſentiments of high conſideration,

Your's, &c.

S. FFIRTH.

The Editor requeſts the indulgence of the ſubſcribers to the Muſeum, for the delay attending the preſent number. This has been cauſed by a variety of circumſtances, which will not co-operate in future: The principal reaſon, however, was the deſire to terminate the printing of the American Diſpenſatory as ſpeedily as poſſible; which muſt have been delayed had the Muſeum gone to Preſs. He truſts it will hereafter appear with due regularity; and he ſolicits the aſſiſtance of the Phyſicians of America, to render the work more and more uſeful, by their frequent communications.

The preſent number will be perceived to preſent two diſtinct ſeries of pages, to the *Original Communications*, and the *Regiſter*; which, whilſt the printing of the work, is thereby facilitated will, it is conceived, render it more valuable, by retaining each part ſeparate, in the binding up the volume. This plan is purſued by the Editors of that valuable work the Medical and Chirurgical Review: and it is hoped will be approved of by the readers of the Muſeum.

☞ Any notifications of lectures for the enſuing winter, are requested to be sent immediately to the Editor; as the next number will be put to Press without delay.

ERRATA.

Vol. II. p. 241 line 2, for 18 read 80.

At page 64 of the present No. for *had* read *hard*.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

A practical Treatiſe on the ſuperior Efficacy and Safety of Stizolobium or Cowhage (the Dolichos Pruriens of Linnæus,) internally adminiſtered in Diſeaſes occaſioned by Worms, &c. &c. &c. By WILLIAM CHAMBERLAINE, *Member of the Royal College of Surgeons, London; &c. &c. &c.**

CHAPTER I.

GENERAL DESCRIPTION OF INTESTINAL WORMS.

ANIMATION is ſo bountifully beſtowed through all parts of the univerſe, that there is ſcarcely any living creature that does not afford habitation and nutriment, within itſelf, to ſome other living creature.

Birds, beaſts, fiſhes, reptiles, all have their paraſites; each, certain genera, proper to itſelf, infeſting the inteſtinal tube, or other parts.

Man is not exempt from this law of the creation. Living, or dead, he is the prey of worms.

* The teſtimonials which many medical gentlemen have given of the utility of the Stizolobium, or cowhage, in diſeaſes occaſioned by worms, have induced the Editor to introduce into the preſent Number, and which will be continued in the ſubſequent, copious extracts from the ninth edition of Mr. Chamberlaine's treatiſe on this ſubject; that trials of its properties may here be made by our medical men.

Naturaliſts have deſcribed a great variety of worms, which have been found in different parts of the human body*; but, in this place, a general deſcription of thoſe which are moſt commonly known, and which infeſt only the alimentary canal, is all that is deemed neceſſary.

Theſe are,

1. The *Aſcaris Lumbricoides.*
2. *Tænia.*
3. *Aſcaris Vermicularis.*
4. *Trichuris.*

Aſcaris Lumbricoides. This, which is alſo called the *Teres*, or *long and round worm*, has been conſidered as a variety of the *lumbricus terreſtris*, (being mentioned by Linnæus under the name of *L. inteſtinalis*, and by Ray called *lumbricus inteſtinorum teres*,) from which, however, it evidently differs in its conformation, being entirely without the elevated ring or band, ſo conſpicuous in the middle of the common earth worm.†

This worm is from two to fifteen inches in length; and in circumference, when full grown, equal to that of a gooſe-quill. When recently excluded they are nearly tranſparent, and of a pale reddiſh colour: but ſoon after they die, that colour is changed to a light opaque yellow.

In general, theſe worms are very numerous. Dr. Hooper, of the Mary-le-bone Infirmary, ſays, he knew a girl eight years

* *Præter vermes inteſtinales, ſunt et alii,* OMNES FERE CORPORIS PARTES *incolentes, uti vermes dentales, gingivales, rhinarii, pulmonarii, cardiaci, ſanguinarii, urinarii, umbilicales; vermes in Hepate, in ſaliva, &c. Sed hi omnes non niſi in ſtatu morbido inveniuntur.* SENNERTUS.

See alſo, Baglivi, Andry, Van Doeveren, Le Clerc, profeſſor Pallas, Bloch of Berlin, Dr. Simmons, Dr. Hooper, &c.

† Memoirs of the Medical Society of London, Vol. II. p. 63.

old, who voided, per anum, upwards of two hundred in the courſe of a week; and I myſelf have very frequently ſeen in Jamaica, where, as in all the other Weſt India iſlands, this ſpecies of worm is more common, both among the whites and the negroes, than in England, as many *teretes* diſcharged at one ſtool, after the exhibition of a vermifuge purge, as would nearly fill a pint meaſure.

The *teres* is found in the ſmall inteſtines, particularly the jejunum, and ſometimes in the ſtomach. The ſtomach, however, does not appear to be their natural place of reſidence; but being irritated, they are liable to be diſlodged from thence, and not unfrequently thrown up by vomit. When theſe worms, as ſometimes it happens, make their way into the cavity of the abdomen, the caſe is mortal.

The *Tænia* or *tape-worm*, is called by Tyſon, De Haen, and others, *lumbricus latus*; and by the French, *le ver ſolitaire*, becauſe it has been ſuppoſed, though erroneouſly, there never exiſts more than one at a time in the inteſtinal canal.*

This animal conſiſts of a head placed at the ſmalleſt extremity, and a chain of articulations more or leſs broad or long, which gradually enlarge as they advance, and at length terminate in a tail formed by a rounded joint. Each of theſe joints contain their proper viſcera. Dr. Hooper† deſcribes two ſpecies of *tænia*; viz. 1. *T. Oſculis marginalibus*, or, with little apertures or mouths, on the margin or edge of each joint, very evident to the naked eye. "The oſculum is only found on one edge of a joint, and none on the oppoſite margin of the ſame

* Doctor Nitret in his letter to De Haen, Act. Med. xii. 219, mentions a woman who was ſo hungry, that ſhe was obliged to eat day and night. The reaſon was, that ſhe had EIGHTEEN *tape worms*, which were afterwards expelled.

† Memoirs of the Medical Society, Vol. V. Art. XXVII.

joint. It ſometimes happens that a joint is furniſhed with more than one oſculum; and, in general, the next joint has its oſculum ſituated on the margin of the oppoſite ſide; ſo that it alternately changes. This order, however, is ſeldom preſerved throughout the whole tract of the worm, for they are ſometimes on the ſame ſide for ſeveral joints together; but they never are ſituated on the *flattened* ſurface; hence, their being marginal is an eſſential character of this ſpecies."

"Sp. 2. *T. oſculis ſuperficialibus. Eng.* The BROAD Tape-Worm. The joints of this tape-worm are conſiderably more broad than long, and their oſcula, or apertures, are not placed on the margin, but in the middle of the flattened ſurface, and only on one ſide; this ſpecies ſeldom parts with any joints. It is very ſeldom met with in this country, but is endemic in Switzerland and Ruſſia, and very common in Germany and other parts of Europe.*"

"The joints of the *tænia oſculis marginalibus* are very eaſily ſeparated from each other, whilſt the animal is alive. Each joint, thus detached from the mother worm, has the power of retaining, for a conſiderable time, its living principle; and is called, from its reſemblance to the ſeed of the gourd, *vermis cucurbitinus*," (the GOURD WORM.)

The ſeparated joints do not appear capable of retaining their ſituation for any length of time, but are ſoon forced down the inteſtinal tube, and at length creep out, or are expelled per anum. Dr. Hooper "knew a man, who, whenever he took an eccoprotic medicine, voided upwards of forty detached joints of tænia, with his fæces; and remembers a female patient who

* Dr. Bloch, in his Inaugural Diſſertation, for which he received the prize of the Royal Society of Sciences at Copenhagen, deſcribes a worm, under the name of Ligula, which reſembles a riband, and is *without* articulations.

was always tormented by their creeping per anum, two or three hours after dining, without the exhibition of any medicine."

A caſe is related in the latter part of this work, of a ſailor, recommended to me by Dr. Thornton; and about the ſame time another occurred to me, of a bedſtead-maker, both of whom diſcharged daily, incredible quantities of tænia, in ſingle joints or divided portions, and were rendered incapable, through extreme debility, of following their reſpective occupations. Both theſe were perfectly reſtored to health by the liberal exhibition of cowhage. The formation of freſh joints is ſo rapid, that I have known ſeveral perſons who have evacuated from twenty to fifty in a day. Indeed, there are very few of thoſe who are troubled with tænia, who do not paſs off more or leſs every day.

It will be unneceſſary to follow the ingenious Dr. Hooper, in his accurate anatomical deſcription of every part of this animal; after all that has already been ſaid, it may be ſufficient to obſerve, that the head is extremely minute, not exceeding in ſize a grain of muſtard-ſeed, and that the joints neareſt the head are not more than one-eighth of an inch in breadth, and one ſixteenth of an inch in length; they continue of this ſmall ſize for about the firſt twenty or thirty joints, then gradually increaſe in length and breadth, until they arrive at their full ſize, which is from half to three quarters of an inch in length, and from one third to half an inch in breadth. The length of the worm depends on the number of joints it may conſiſt of; Boerhaave mentions his having ſeen a tape-worm thirty ells in length; and I have myſelf meaſured them, from ſixteen to twenty-five feet in length. Indeed, the exact admeaſurement of a tape-worm can never be very well aſcertained; they have the power of contracting and dilating their bodies or joints; and a tape-worm is always the longeſt when firſt diſcharged. A

Mr. Jackſon ſent to me, in order to ſhew me a tape-worm he had recently voided, in conſequence of taking large and repeated doſes of cowhage; after having for ſix weeks before, been daily diſcharging detached joints, in number from ten to twenty each day. I meaſured it, when apparently dead, and found it ſeventeen feet in length: but Mr. Jackſon aſſured me, that he had accurately meaſured it two hours before, and found it *twenty-one feet and a half.* I have ſaid, *apparently* dead, becauſe on putting it into a baſon containing ſome rectified ſpirit of wine, its motions were very ſtrong, and it continued to ſhew evident ſigns of diſtreſs for above three minutes after immerſion, and when quite dead, was contracted to at leaſt half its original length.

How great a portion ſoever of the tænia may be diſcharged, one thing it is neceſſary to impreſs upon the mind of the reader, namely, that unleſs the HEAD be alſo brought away, the worm very ſoon is regenerated, and the patient ſuffers all the ſame inconveniencies as formerly; I am convinced alſo, their generation is very rapid.

The ſame gentleman whom I juſt now mentioned, in a very few weeks after he had experienced a temporary ſuſpenſion of all his complaints, by the diſcharge of ſo large a portion as has been ſtated, was again obliged to have recourſe to the cowhage, in increaſed quantity, in conſequence of his having again began to diſcharge daily, ſingle joints, and ſometimes lengths of three, four and ſix joints; and at laſt a tape-worm, which he had no opportunity of meaſuring; but which, in the aggregate of its bulk, he ſaid, would have completely filled a half pint baſon. This was in November, 1800; and as he has remained perfectly free from complaint ever ſince, it is probable the latter tænia may have been diſcharged entire; that is to ſay, head and all.

The ſeat of the *tape-worm* is, moſt commonly, the ſmall inteſtines, the jejunum and ilium, of which it occupies ſo large a portion, as ſometimes to give a ſenſation of a large ball or weight, falling from one ſide to the other, as the patient turns in bed. But it is ſometimes found in the ſtomach. *Van Doeveren* mentions, that a Dutch peaſant, after having taken an emetic, vomited up *forty ells* of *tape-worm*, and would have got clear of more, if he had not been afraid of puking out all his guts, and for that reaſon bit the worm off.*

There are various opinions relative to the uſes of the oſcula, or little apertures or mouths, on the edge or margin of each joint.

Dr. Hooper ſays, the oſcula are believed to be viſcera ſubſervient to the propagation of the ſpecies; and that they can be proved to give exit to the ovula. This opinion is ſupported by the ingenious Mr. Carlyle.†

By ſome, *(Coulet* and *Ernſt,)* they are ſuppoſed to be the mouths by which they take in their food, and at the ſame time conſider them as excretory veſſels. *Bonnett*, in his Traité d'Inſectologie, appears to favour a ſimilar opinion, and that they alſo act as organs of reſpiration.

When we conſider the extreme minuteneſs of the head of this animal, and the minute and delicate ſtructure of the joints more immediately connected with the head, I never can reconcile it to my mind that ſo ſmall an organ can take in a ſufficient quantity of aliment for the ſuſtenance of a body of ſo much greater proportion; or, more properly ſpeaking, a CHAIN of bodies, ſometimes to the amount of ſeveral ells in length; and when,

* Van Doeveren. Diſſ. de Verm. Inteſtinor.

† Tranſactions of the Linnæan Society, Vol. II. p. 255.

added to this, we take into the account the very great difficulty there is in diſengaging the tape-worm from its hold, and the obſtinacy with which it eludes the action of even the moſt powerful medicines, is it not more probable, that theſe oſcula not only anſwer the purpoſe of mouths, through which the worm receives its aliment, but alſo of ſuckers or tenacula,* by which it is enabled to maintain its hold of the villous coat of the inteſtines, throughout its whole length?

The *Aſcaris Vermicularis*, or *maw-worm*, is, in colour, white, or of a pale-yellow; when full grown it is about half an inch in length, and in thickneſs nearly equal to a fine cambric thread, whence it is called by ſome, the *thread-worm*.

The ſeat of the aſcarides is the rectum; but they have been found in other parts. They are, in general, very numerous, occaſioning a very great itching and irritation about the verge of the anus; extremely active and quick in their motions, and not unfrequently are found creeping from the anus, externally; hence the Germans have given them the name, "AFTERWURM."

Of all the ſpecies of worms which infeſt the human inteſtines, theſe are moſt common; I am of opinion there are very few children without them. Where the conſtitution is delicate, and favourable to their production, the quantity of them capable of being nouriſhed in the inteſtines, is incredible to any but thoſe who are converſant with ſeeing them. I have known inſtances where the ſtools have appeared to be nothing elſe than myriads of aſcarides, "*all alive and leaping;*" but Mr. Werner,

* *Roſenſtein* is of the ſame opinion. "The tape-worm is the moſt difficult to expel entirely, partly on account of its length, and the many turnings, or coils of the bowels; partly on account of the power this worm is endowed with, of keeping himſelf faſt to the inteſtines with the point of his ſmaller end *(meaning the head)* and with his ſuckers between each articulation.

Roſenſtein on the Diſeaſes of Children, and their Remedies, Ch. 22.

ſurgeon to the Britiſh Factory at Algiers, ſays, that the aſcarides, and the ſymptoms cauſed by them among the inhabitants of Great Britain, are nothing in compariſon to what he has ſeen among the Algerines, with whom, by reaſon of their manner of living, they are much ſtronger, and occaſion, frequently, death itſelf.

In addition to theſe already deſcribed, we are to notice a thread-worm of a different ſpecies from the former, which, being not ſo often met with, has eſcaped the attention of moſt authors. This is called the *Trichuris*, or *long thread-worm;* and by the French *le ver a queue*, or *tailed worm;* this differs from the *aſcaris*, in having a large and ſmall extremity, whereas the *aſcaris* is pointed at both extremities. Its length is in general from one to two inches; the body, or obtuſe end, is almoſt one ſixteenth part of an inch in thickneſs; the tail is two-thirds of the whole length of the worm, as fine as a hair, and terminating in a very fine point. Dr. Hooper has given the beſt deſcription of this worm, in the Medical Journal, Vol. V. page 252, but no written deſcription can convey ſo good an idea, as can be obtained by inſpection of thoſe inimitable plates, which accompany the ingenious and elaborate account of worms, given by that gentleman in the volume alluded to.

The *Gordius*, or *Guinea-worm (vena medinenſis,)* found in the legs, and ſometimes other parts of negroes imported from Africa to the Weſt Indies, and not unfrequently, of white people alſo, who have been a long time on the coaſt of Guinea, being unconnected with the preſent ſubject, I forbear to notice it farther than merely to make mention of it.

CHAP. II.

CAUSES.

The cauſes which may be favourable to the propagation of worms are various; but how they are at firſt introduced into the ſtomach or inteſtines, or at what period, remains a matter of doubt and uncertainty; ſome will have it, that they even exiſt in the inteſtines of the infant before birth;* be that as it may, I have certainly ſeen both the round worm, and aſcarides, in children in the month; and this, and many other facts that have come to my knowledge, roundly contradict the aſſertion of ſome, which I moſt pointedly maintain to be erroneous, "that children never have worms while they live on the breaſt."

Our food is full of worms, and their ova; it is ſuppoſed by many, that all fluids, even the blood itſelf, abound with their principia; ſome will have it, that it is from theſe worms, or ova, taken in with our food, inteſtinal worms are produced; but how does this account for worms being found in the inteſtines of ſuch very young children, and even fœtuſes? Beſides, the heat of the ſtomach, and the gaſtric fluid, would ſoon deſtroy any worms taken into the ſtomach, which were not proper to the animal body; add to this, that worms which are found in the inteſtines of animals, whether of mankind, or of beaſts, birds, or fiſhes, are unlike any that are found among vegetables, in earth, or in water.†

* *Van Doeveren* Diſſ. de Verm. inteſt. *Baglivi*, Epiſt. ad Andry. *Hippocrates* (περι νουσων, L. IV. p. 511 affirmat *lumbricos latos et rotundos exiviſſe cum primo ſtercore. Bloch* endeavours to prove that worms are deſtined by nature to be generated, and to live in the bodies of other animals: among other arguments in favour of this opinion, he obſerves that they are found in the fœtuſes of different animals in utero; that they reſiſt the digeſtive power of the ſtomach, and that they conſtantly die when expelled from or taken out of the body. *Bloch, Abhandlung von der erzeugung der eingeweidewurmer, &c.* Sect. 2.

† Difficillimum quidem eſt explicatu, quanam ratione vermes in animantibus viventibus generantur. *Swammerdam, Hiſt. Inſect.*

It is not, however, of ſo much importance in this place, to aſcertain the origin of inteſtinal worms, as to examine what circumſtances are moſt favourable to their continuance in number, bulk, and ſtrength.

Debility of the organs of digeſtion, in an eſpecial manner, promotes the generation of worms: and a relaxed and weak ſtomach affords them a nidus, where they multiply and are nouriſhed. Hence, children are more frequently infeſted by worms than adults, becauſe of their greater moiſture; and thoſe children more than others who are of a relaxed fibre, and in whoſe chylo-poetic viſcera, digeſtion is ill performed.

Bad living, (as it is called,) that is, a long continuance of unwholeſome diet, or even of that which is wholeſome, if not in ſufficient quantity, will diſpoſe a conſtitution to worms, which was not before ſubject to them. Kidd Wake, who ſuffered five years impriſonment in Glouceſter jail, during the three firſt years of which term, he ſubſiſted upon bread and water, excepting only ſix ounces of meat twice a week, never knew he had any worms, but was always ſtrong and healthy, before his confinement; but after the two firſt years of his incarceration he began to paſs the *tænia cucurbitina* in large quantities every day; and from that to the time of his liberation, he ſuffered ſo much from the tænia, that when he came out of priſon, he was literally a mere ſkeleton. For a long time after his releaſe, the quantities of tænia which he expelled, both in ſingle joints, and in lengths of from three to ſix and ten inches, as well when he took the cowhage, as when he did not, were incredible. His conſtitution was ſo broken down, that any draſtic medicines, or ſuch as are uſually given for the expulſion of the tænia, would moſt probably have deſtroyed him; the cowhage, given in double and treble quantity, and aided by limaturæ ſtanni, liberally exhibited, has, at times,

given him conſiderable relief, but, he has never, even to this day, been completely cured.

Among the circumſtances moſt likely to ſubject the conſtitution to worms, the eating of great quantities of crude, waſhy vegetables, without a due admixture of animal food; as alſo, too great an indulgence in green and unripe fruit, may be conſidered in a prominent point of view.

Hence, in the Weſt Indies it happens, that among the negroes, whoſe diet conſiſts chiefly of vegetables,* complaints ariſing from worms are much more frequent than among white people, inſomuch that it is very rare to ſee a negro child without a ſwoln belly, and other ſymptoms of this diſeaſe.

CHAP. III.

SYMPTOMS.

There is no appearance which this complaint, in ſome conſtitutions, will not aſſume;† Doctor Dwarris, an old, and very eminent phyſician, of Kingſton (Jamaica,) uſed frequently to declare, that whenever he ſaw any uncommon and violent

* Plantanes, yams, coccos, caſſada, rice, Angola peaſe, and the maize, or Indian corn, conſtitute the principal part of the diet of negro ſlaves. The latter, of which they are remarkably fond, when juſt beginning to ripen, (in which ſtate it is uſually termed *mutton*,) is favourable to the multiplication of worms, more than any thing I know of. Very little animal food comes to the ſhare of a negro ſlave; and of this, only ſuch as is of the moſt indigeſtible kind; as ſalt herrings, Newfoundland ſalt fiſh, cured beef, ſalt pork, and the like.

† *Probè notandum eſt, quod nullum tam peregrinum ſit ſymptoma, tamque* Δαιμονιωδες, *quod vermes excitare non poſſint. Horrenda quidem Symptomata quandoque à vermibus exoriuntur, ut non rarò ex incantatione produci vulgo credantur.* Baglivi.

See alſo, *Werner* in Memoirs of the Medical Society of London, Vol. III. Appendix, page 591.

ſymptoms, not immediately to be accounted for, and which ſuperſtitious or ignorant people would be apt to attribute to witchcraft, he would, without heſitation, exhibit anthelmintics, and that in ninety-nine caſes out of an hundred, he found himſelf right in his conjectures.

In general, it is not difficult to know when a patient is troubled with worms. A hard ſwelled belly, diſagreeable breath, a particular heavineſs, or languid, livid look, about the eyes; a ſwelling and paleneſs of the lips, and eſpecially the upper lip; an enlargement of the noſtrils; itching of the noſe, and ſometimes a particular whiteneſs of it; pale, thin, crude urine, and in ſome inſtances, the urine perfectly white; a troubleſome itching about the anus (eſpecially from aſcarides,) ſlow fever, with a pulſe ſometimes hard, ſometimes weak and quick, but always unequal; obſtinate coſtiveneſs, or elſe diarrhœa; appetite irregular; ſometimes loathing all manner of food, at other times uncommonly voracious, are almoſt always concomitant and unerring ſymptoms of this diſeaſe.

Beſides theſe, the face will be ſometimes pale, at other times *crimſoned* over with an univerſal fluſhing.

To theſe ſymptoms ſucceed mucous ſtools,* teneſmus; ſudden griping pains in the ſtomach and inteſtines; a ſhort, dry cough; vomiting, ſtartings during the time of ſleep, and grinding the teeth; prolapſus ani;† ophthalmia;‡ great thirſt; fre-

* From the irritation of the inteſtines, their periſtaltic motion will be increaſed, and the ſecretion of the mucus will conſequently be in larger quantity.

† Underwood.

‡ *Ophthalmia.* I was ignorant that worms could be the occaſion of ophthalmia, until, in 1787, Mr. Wathen placed a young lady under my care, who came up from Cambridgeſhire for his advice, on account of a very obſtinate ophthalmia,

quent pains in the ſide; ſudden loſs of ſenſes, with ſtupidity, and a liſtleſſneſs and want of inclination to ſtir or take exerciſe;* in not a few inſtances, loſs of ſpeech.† When the

which had baffled every endeavour of the moſt eminent medical gentlemen to conquer it. The irritability was ſo great, that ſhe could not bear the ſmalleſt ray of light, coming even through a pin-hole in the window ſhutter. At firſt I ſuppoſed there muſt have been ſome miſtake, as I could not conceive a reaſon why Mr. Wathen ſhould ſend a patient from himſelf to *me* to be cured of ophthalmia, until it was explained to me that that gentleman ſuſpected the cauſe of the young lady's malady to be worms, and that, after having ineffectually tried other means to remove it, he wiſhed her to make trial of the cowhage, which in a ſhort time was attended with very happy conſequences.

Mr. Ware alſo notices the frequency of ophthalmia ariſing from the ſame cauſe.

" In conſequence of the cloſe ſympathy between the eyes and the bowels, when " the latter are loaded with ſlimy fæces, they not only prove a nidus for worms " of various ſorts, but occaſion, not unfrequently, among other ſymptoms, an in- " flammation of the eyes. From this circumſtance, the ophthalmy in children is " ſometimes incurable, until active remedies are adminiſtered, thoroughly to " cleanſe the primæ viæ. But it ſhould be remembered, that the object in admi- " niſtering ſuch remedies is to evacuate the morbid contents of the ſtomach and " bowels, and not to debilitate the general ſyſtem. WARE, *on Ophthalmy, Pſo-* " *rophthalmy, and Purulent Eye, note* 7, *page* 45.

* It is aſtoniſhing how firmly worms adhere to the coats of the ſtomach, or inteſtines, much like leeches; from whence they draw their nouriſhment by continual ſuction, which in the large worms, when in great quantity, muſt prove a conſiderable loſs to the human body, by defeating the nutrition of the body, cauſing great waſte, languor, fevers, and many other bad conſequences; often occaſioning violent cutting, piercing pains, and conſumption of fleſh.

ROWLEY *on Nervous Diſeaſes*, page 168.

† A healthy boy, aged eleven, loſt ſuddenly the power of ſpeech, and was affected with ſpaſmodic conſtriction in the muſcles of his neck and back. For theſe complaints he took anthelmintics, antiſpaſmodics, and tonics, which brought away fifteen worms, but in five weeks left him ſpeechleſs. *Hoffmann* being conſulted, preſcribed bitter purgatives and more powerful anthelmintics, which ſoon reſtored the uſe of ſpeech. *Sauvages* mentions a boy, who having paſſed, by the uſe of anthelmintics, thirty large worms, in twenty days, recovered his ſpeech which he had loſt. *Townſhend's Elements of Therapeutics.* Genus CII. Sect. 2. Mutitas.

diſeaſe is farther advanced, the mucous ſtools increaſe; cold ſweats come on; convulſions, epileptic fits, palpitation of the heart, frequent faintings, hectic fever, hiccup, apoplexy,* and finally, death itſelf.

After all that has been ſaid, it is poſſible that a patient may labour under almoſt every one of the ſymptoms enumerated in the foregoing deſcription, without having a ſingle worm of any ſort!

The *hydrocephalus*, either *externus* or *internus*, vernacularly denominated the *watery head*, or *dropſy of the brain*, exhibits a variety of ſymptoms ſimilar to thoſe occaſioned by worms; ſuch as, ſhort diſturbed ſleep; ſtartings, grinding of the teeth in ſleep; greedineſs of taking food; circumſcribed fluſhing of the cheeks; ſickneſs; picking of the noſe; and the urine often depoſiting a ſediment of a light conſiſtence and whitiſh colour: in ſhort, there are ſo many ſymptoms appear, which are common to worm-caſes, dentition, and other irritating cauſes, that, as the great and good Dr. Fothergill obſerves, it is difficult to fix upon any which ſhall particularly characterize this diſeaſe.†

Perhaps the difference of arterial action in the one, and the other diſeaſe, may tend to point out, with other concomitant ſymptoms, the difference between the two. In *hydrocephalus internus*, and that denominated by Dr. Rowley, *hydrocephalus membranarum*, the irregularity of the pulſe is very ſtriking; the rapidity of the pulſe, beating from 100 to 150 at different times of the day, may be contraſted with its ſlowneſs at intervals,

* *Apoplexia Verminoſa.* Apoplexy has ariſen from worms.
ROWLEY *on Nervous Diſeaſes*, page 486.

† The pathognomonics of hydrocephalus internus, are in children, laſſitude, ſlight pyrexia, pain in the head, a ſluggiſh pulſe, drowſineſs, and dilated pupils. *Townſhend's Elements of Therapeutics. Genus* XXV. *Hydroceph. intern.*

the pulſations being ſometimes not more than from 80 to 96; whereas, in worm complaints, although the arterial action may be increaſed, the pulſe is regular.

The pains in the limbs, inceſſant head-ach, a ſickneſs, with frequent vomiting, in which that action is not attended with pain, but the food is thrown up, plentifully, eaſily, and without ſtraining; a ſtrabiſmus or ſquinting, and at other times the brow contracted into a diſagreeable, and, as it were, angry frown, without any apparent provocation; and in the more advanced ſtages, dilatation or immobility of the iris; impatience of any but a horizontal poſture; the frequent application of the hand to the forehead, an almoſt continual drowſineſs, and coſtiveneſs ſcarcely to be removed, may alſo in ſome meaſure, tend to diſcriminate the hydrocephalus from other complaints. It is true, many of theſe ſymptoms above enumerated, may ariſe from other cauſes than water in the brain; but in other diſeaſes they do not ſo uniformly attend, nor continue ſo long. In fact, nothing but frequent opportunities of ſeeing both complaints can enable a practitioner to judge accurately, which of the two the patient labours under; and even with theſe advantages, the beſt judges may be miſtaken. Dr. Fothergill acknowledges, that he met with two or three inſtances, in patients that had very ſtrong appearances of being entered into the laſt ſtage of *hydrocephalus internus*, but were happily recovered. They were actual worm-caſes, and were cured by anthelmintics. The doctor had been led, from the appearances that were ſimilar to thoſe which attend the *hydrocephalus*, to conclude it was that diſeaſe, and to form an unfavourable prognoſtic.*

What tends more to deceive, and render it difficult to diſcriminate the one diſeaſe from the other, is, that it ſometimes happens, that in the laſt ſtage of *hydrocephalus*, as in many other

* Lettſom's Edition of Fothergill's Works, 4to. page 270.

diſeaſes, when the patient is going to die, worms are diſcharged. I do not find that any author has taken notice of this circumſtance, except my reſpected friend and ſchool-fellow, Dr. Charles William Quin, of Dublin,* whoſe Diſſertation on Hydrocephalus internus, I know not whether to admire moſt for the beauty of its language, or the accuracy with which the ſymptoms of this dreadful diſeaſe are deſcribed.

There is alſo another diſeaſe incidental to children, which, from its appearances may not unfrequently be miſtaken for a worm complaint. It is cauſed by an obſtruction of the meſenteric glands, and is called *tabes meſenterica*, and by others the *meſenteric fever*. It moſt commonly makes its appearance in children from the age of two to four years; but in ſcrophulous habits, ſhews itſelf until the eighth or tenth year; or even beyond that period, when the conſtitution is highly ſcrophulous; a fever, either remitting, or intermitting, hardneſs of the belly, irregular appetite, irregular ſtate of the bowels, paleneſs of countenance, or elſe a circumſcribed redneſs of the cheeks, as in hectic patients; proſtration of ſtrength, and an emaciated ſtate of the body and limbs, are the ſymptoms moſt commonly attendant on *tabes meſenterica*. Seeing then, that in other diſeaſes, ſo many ſymptoms ariſe, ſimilar to thoſe which are occaſioned by worms, it is abſolutely impoſſible to ſay, to a poſitive certainty, that a patient labouring under even the greater number of the ſymptoms laid down, has worms; the only diagnoſtic ſign then, which can poſſibly enable us to aſcertain, without fear of being miſtaken, their preſence, is, THE SEEING WORMS,

* Nonnunquam tamen, hic temporis vermes inferius dejiciuntur.
QUIN, *Diſſ. Inaug. de Hydrocephalo interno.*

OR PARTS OF WORMS DISCHARGED,* either downwards, or by the mouth; and when we ſee them thus expelled, we may be ſure there are more. Monro, however, regards a dilated pupil as diagnoſtic of worms, and ſays, if it cannot be conſidered as a pathognomonic ſign, it may be looked on nevertheleſs as an excellent diagnoſtic.

All the foregoing ſymptoms may be accounted for as ariſing from one or other of theſe three cauſes:

I. The debility, ravenous appetite, paleneſs, coſtiveneſs, hardneſs of the belly, and flatulence, are occaſioned by a deficiency of that chyle or nutriment, which ſhould go to our ſupport, but which is greedily devoured by the worms, almoſt as faſt as it can be ſecreted.

II. To matter, thrown off or diſcharged by the worms, may be referred, that peculiar ſmell of the breath ſo remarkable in ſome children; the diſcoloured appearance of the ſtools; fetid and ſour eructations, diarrhœa, &c.

III. From irritation of the inteſtines, proceed ſickneſs, vomiting, itching of the noſe, ſwelling of the upper lip, teneſmus, convulſions, St. Vitus's dance, epilepſy, catalepſy, tetanus, and all the train of evils ariſing from nervous affections.

* "The ambiguity of every ſymptom aſcribed to worms, except that of voiding "them, is well known."

Medical Eſſays, Vol. II. Art. 18.

(To be continued.)

Obſervations, Diſſections, and Experiments on the Bite of enraged Animals: by M. Rossi.*

FOUR caſes are here given of hydrophobia, or ſymptoms nearly allied to it, brought on by the bite of enraged animals.

Caſe 1. A young man was bitten by a cat in the leg; he ſuffered acute pain for ſome time, but it afterwards abated, and he became apparently well. Every method in uſe for preventing hydrophobia was employed, as the actual cautery, cauſtic alkali, bliſters, &c.; but in vain. On the forty-ninth day after the bite, the ſymptoms appeared, and the patient died with his teeth fixed in a piece of iron, which he had ſeized hold of. This cat had been rendered furious by only being confined in a room and tormented. On diſſecting the animal, the brain and cerebellum were found to be inflamed, with other ſymptoms of diſeaſe; and ſimilar appearances were obſerved on diſſecting the patient.

Caſe 2. Nothing remarkable occurred in this inſtance, except that the ear of the patient was painfully affected every night, at the very hour at which he had been bitten, during the fifty days that elapſed from the bite to the commencement of the diſeaſe. The bite was in the cheek: the ſymptoms were ſuch as occur in the ordinary forms of hydrophobia.

The third caſe affords a confirmation of the principal fact obſervable in the firſt caſe. A cow-feeder having remarked a cat often coming to ſteal the milk in his dairy, lay in wait for it, and attacked it with a hatchet. A conſiderable conteſt enſued;

*From *Mem. de l'Acad. de Turin, tom.* 6, 1801-2.

till at laſt the cat, unable to avoid an approaching blow, ſprung at the man, and ſeized him by the chin, whence there was no poſſibility of detaching it, but by cutting off its head. The patient was carried to the hoſpital, and all the uſual preventives of hydrophobia, as cauterizing, purging, bleeding, and mercurial ſalivation, applied. On the twentieth day the fatal ſymptoms made their appearance: he felt much difficulty in ſwallowing water, but this he overcame with great fortitude. The difficulty increaſed, and the wound became bad: the patient grew furious, and endeavoured to bite every one that came near him: he was bound in chains, but immediately broke them in pieces, leapt from his bed, ran up and down the hoſpital, attempting to bite all he met, till, reaching the outer door in order to eſcape, he was ſeized with a ſhivering, and fell down dead. The diſſection afforded appearances ſimilar to the others: the ramifications of nerves on the pharynx were, as uſual, very tender and eaſily broken, and the pharynx itſelf livid.

Caſe 4. is of a man bitten by an enraged cat. He ſuffered little pain, though the bite was deep, and the ſuppuration copious. He was treated as uſual, and ſeemed at length quite cured. For a month after this, he remained in perfect good health, then became weak and feveriſh, and in fifteen days died of conſumption.* On diſſection, the appearances correſponded with thoſe of the former caſes, though no unequivocal ſymptom of hydrophobia had manifeſted itſelf during life.

Theſe caſes are of great importance, in ſhewing that animals previouſly healthy become capable, when enraged or irritated, of communicating diſeaſe by their bite; a fact which, though generally credited by the vulgar, wanted the ſupport of direct evidence to eſtabliſh it ſatisfactorily.

Med. and Chir. Rev.

* Of what particular character is not ſtated.

On Plica Polonica.

Dr. *De Carro*, of Vienna, in a letter to the editors of the *Bibliotheque Britannique*, dated May 30, 1804, obſerves as follows.

"The letter of Dr. *Peſchier* on the *plica polonica*, in which he ſpeaks of the methods of cure, to which the recruiting of the army which took place among the Poloneſe made it neceſſary to have recourſe, recals to my mind a ſingular anecdote, communicated to me two years ago by Dr. *Frieze*, of Breſlaw, a well informed phyſician, and who firſt introduced the vaccine inoculation into Sileſia. There are ſome phyſicians who doubt, in oppoſition to the eſtabliſhed opinion in Poland, whether there is any danger in cutting off the hair in this diſeaſe, and promoting the cure by external remedies. The following fact, which occurred at Breſlaw, ſeems to prove that thoſe phyſicians were juſtified in their opinion. "Four years ago," ſays Dr. Frieze, "one third of the recruits of the regiments of artillery brought from South Pruſſia were attacked with *plica polonica*. An order was received from Berlin to ſend to that city all thoſe that were infected, and to take care that the diſeaſe was not communicated to others. This order was not at all to the taſte of the commanders of companies, as it would occaſion the loſs of at leaſt two hundred young ſoldiers. M. *Hænel*, ſurgeon major to the ſecond artillery regiment, became mediator in the cauſe; he made the recruits be brought on the ramparts, and ordered his ſurgeons to make a general ſhaving of them. In a little time, a pile of plicæ was accumulated, an ell and a half high; theſe trophies were then caſt into the ditch, and the heads of the men carefully waſhed with ſoap and water daily for ſome weeks: by this ſimple method, aided from time to time by a good thraſhing, thoſe

dirty Polanders were ſpeedily transformed into good ſoldiers, without having in the leaſt ſuffered by the loſs of this precious ornament of their heads."

"Knowing that the Poliſh horſes were often attacked with plica, I begged of ſeveral phyſicians and Poliſh gentlemen, with whom I had occaſion to ſpeak on this ſubject, and who all confirmed the fact, to endeavour to learn, if poſſible, whether this diſeaſe occurs in men and horſes independently of each other, or whether it is the effect of frequent contact between them in the courſe of dreſſing; and, in caſe of the latter of theſe ſuppoſitions being found true, to diſcover in which of the two, the man or the horſe, the diſeaſe originates.—Hitherto the Poloneſe have entirely neglected to inveſtigate the matter in this point of view."

Med. and Chir. Rev.

Vomiting excited by Emetic Tartar injected into the Veins.

A ſingular mode of producing vomiting, for the expulſion of ſolid food ſticking in the œſophagus, and threatening ſuffocation, has been propoſed and practiſed by one or two German practitioners, and, as is ſaid, with complete ſucceſs. Four grains of emetic tartar were diſſolved in half an ounce of warm water, and injected, by means of a ſyringe with a long tube, into the *vena mediana* of the arm. In about a minute, the patient vomited violently, and diſcharged the obſtructing ſubſtance, which before was in vain attempted to be diſlodged.

Med. and Chir. Rev.

Cure of Tinea, Itch, &c.

Dr. *Dieman*, of Amſterdam, recommends a mixture of the hyper-oxygenated muriatic acid and oil, for the cure of itch, tinea, and other cutaneous affections. Sixty drops or more of the acid may be added to an ounce of oil. The mixture ſhould be kept in the dark, as the effect of light is to diſoxygenate the acid, and reduce it to the ſtate of common muriatic acid.

Med. and Chir. Rev.

On certain obſtinate Venereal Affections.

M. *Bruguieres*, formerly ſurgeon in chief to the army of Italy, in a late number of the *Journal de Medicine* (vol. 8, p. 23), makes ſome judicious obſervations on the treatment of obſtinate venereal affections, not undeſerving of attention. The military *Hoſpital of Toulon*, the ſituation of which is low and cloſe, proved formerly little better than a tomb for moſt of the patients admitted, and eſpecially ſuch as laboured under ſyphilis; the greater number of the inflammatory venereal ſymptoms terminating in gangrene. Phymoſis and paraphymoſis were often followed by a total loſs of the penis, the mortification ſometimes ſpreading into the neighbouring parts. Gangrene alſo frequently ſeized on ulcerated buboes, ſpreading along the thigh, or the abdomen, and ſometimes deſtroying all the external parts of generation.

Struck with theſe alarming occurrences, which no art could remedy, M. *Bruguieres* viſited in 1782 the military hoſpitals of the north, for the purpoſe of obſerving whether the venereal diſorders in them were ſubject to ſimilar accidents. The con-

trary was found to be the caſe, and M. *B.* therefore juſtly attributed their occurrence at Toulon to local cauſes. In fact, when the wards of the hoſpital were raiſed, and ventilation was ſtrictly attended to, theſe gangrenes ceaſed to make their appearance—a ſtriking proof of the great importance of pure air in the treatment of diſeaſes.

M. *Bruguieres* likewiſe made ſome alterations in regard to the remedies, apparently with much advantage. In his tour to the north he had an opportunity of witneſſing the experiments of M. *Merlin*, made at the hoſpital at *Liſle*, by order of government, to aſcertain the anti-venereal properties of opium. The ſucceſs which he obſerved to follow its uſe determined him to adopt it afterwards in caſes which were found to reſiſt mercury and other remedies. He always, he remarks, uſed it with advantage in ulcerated buboes: ſometimes he ſeconded the effect of this medicine, by the application of the *lapis ſepticus* to the cicatrix of the chancre which had produced the bubo. When theſe tumours were in a ſtate of induration, and little diſpoſed to ſuppurate, he conjoined with the opium the repeated application of bliſters over the tumour. Theſe means, he obſerves, never failed him in the moſt obſtinate caſes: nor were they ever followed by any of the accidents above mentioned.

Med. and Chir. Rev.

On the Cure of Fiſtula Lacrymalis: by S. SAWREY, *Surgeon.*

Various modes of cure have been ſuggeſted, both by antient and modern ſurgeons, for this diſeaſe.—After opening the tumour, to remove the calloſity, the antients applied eſcharotics of different kinds; and when a caries of the os unguis

was detected, the actual cautery was had recourſe to. Wiſeman, in the beginning of this diſeaſe, bled and purged his patients, ordered alteratives, and applied compreſſion. If this did not ſucceed, he then opened the tumour, either by cauſtic or with the knife, and uſed medicaments of various deſcriptions, by which means, he ſays, he cured many. But this mode of treatment, generally ſpeaking, could only cure the callous ulcer, and obliterate the ſac; and in this event, what courſe would the tears take? yet he obſerves that the weeping ceaſed. According to Dionis and Garengeot, compreſſion alone often ſucceeded.

As the anatomy of the parts became better underſtood, and the cauſe of the tears flowing over the cheek aſcertained, ſurgeons began to think of opening the obſtructed duct, or of forming a new canal by perforating the bony partition into the noſe, leaving in the opening thus made a ſmall tent, for a longer or ſhorter time, to prevent its cloſing again.

The inciſion into the ſac is by ſome recommended to be oblique, by others ſemilunar. The ſac being opened, the os unguis has been perforated in many different ways. Arnaud uſed a grooved probe, and Petit an inſtrument which he calls the myrtle leaf. Lemorier inſerted the beak of his forceps, broke down and wholly deſtroyed the os unguis, introduced a bit of wax candle for thirty or forty days, and then healed the wound. St. Yves perforated with a trocar, introduced at firſt a wedge of wood covered with plaſter, and afterwards tents of lint, which he changed occaſionally.

Indeed, there ſeems almoſt an endleſs variety in the modes of cure uſed in this diſeaſe: but experience having ſhown that the new canal thus made does ſometimes fill up again, Woolhouſe recommended the inſertion of a leaden or ſilver tube, and the external wound to be healed over it. But in the hands of

Anel, a ſmall probe or ſyringe, for clearing the natural paſſages, anſwered every purpoſe.

Mr. Pott's mode of cure was, to open the canal into the noſe, if poſſible; if not, to perforate the os lacrymale with a curved trocar, introducing a tent until granulations appeared, when he ſubſtituted a piece of bougie or a leaden canula. This was continued as long as the patient could be prevailed on to ſubmit to it. Nearly the ſame mode of practice ſeems to have been generally employed ſince.

Meſſrs. Wathen and Ware, having met with frequent diſappointments, adopted Woolhouſe's mode, and introduced and left in a ſilver tube, which at firſt was attended with flattering marks of ſucceſs. However, it was ſoon found that the tube was not only apt to change its ſituation, but became filled up with inſpiſſated mucus, and of courſe was abandoned. Mr. Pott's mode, with little variation, was again had recourſe to, and I believe is now generally thought to ſucceed.

For various reaſons, I much ſuſpect there is ſome deception with regard to the alleged cures in this diſeaſe. I have minutely examined ſeveral people who have undergone the operation, in the hands of gentlemen of the greateſt dexterity in this town, and am ſorry to ſay, there was merely the appearance of a complete cure. The affected eye ſeems to be in ſimilar circumſtances with the other for a ſhort period only after the parts are healed: it ſoon begins to weep when any little unuſual ſtimulus is applied; or by walking in a ſharp wind; or when expoſed to ſmoke or other acrid vapours: and then the patients find the neceſſity of applying an handkerchief to the inner canthus of the eye, to abſorb the ſuperabundant quantity of tears. This ſhews that the new duct, which was at firſt made larger than natural, is beginning to cloſe; nor indeed does this appear an improbable conſequence, for it is no

eaſy matter at all times to keep a canal open that is formed by nature; much more difficult muſt it be to maintain one formed by art, eſpecially in ſuch an economy as our ſyſtem exhibits.

In fiſtula lacrymalis, ſo much ſtreſs is laid on the dryneſs of the noſtril as a ſymptom, that one would almoſt be perſuaded that the ſalt tears were the proper lubricating fluid for the noſe as well as the eye. In truth, the mucilaginous lympha of the noſe is furniſhed by the membrana pituitaria, which lubricates and defends that membrane, as well from the tears, as the ſharp air or other irritating cauſes. The tears flowing into the noſe through the lacrymal channels are applied to ſo ſmall a portion of the Schneiderian membrane, that it is plain they are not deſigned for the purpoſe of lubricating it; and in fact, when applied in unuſual quantity, they prove a ſtimulus to the membrane, and readily excite inflammation in it. In the ordinary ſtate of the eye, no more tears appear to be ſecreted than is juſt neceſſary for lubricating the ſurface of the eye, and to ſupply the waſte by evaporation. In this ſtate, probably, the lacrymal ſac and ducts might be diſpenſed with. It is only when the ſecretion of tears is unuſually increaſed, that a channel becomes neceſſary for carrying off the ſuperfluous quantity; a purpoſe to which the lacrymal ducts themſelves are not always equal, when the flow of tears is ſudden and large, as in weeping. It is further to be conſidered, that the diſeaſe in the lacrymal ſac is a conſtant ſource of irritation to the eye itſelf, which is thereby kept in a tender and inflamed ſtate. This occaſions a continual increaſed ſecretion of tears. But when the parts recover their healthy ſtate, and the irritation is removed, the increaſed ſecretion from the lacrymal gland diſappears alſo.

We are here led to admire the infinite wiſdom and deſign of the laws of the animal economy: there are not only general laws for ordinary purpoſes, but temporary, or, as it were, diſcretionary ones, to anſwer exiſting circumſtances. We ſee

canals obliterated and holes cloſed at a period of exiſtence, when they are no longer wanted; we ſee peculiar functions commencing at deſtined periods, and ceaſing when neceſſity no longer requires them.

About four years ago, aſſiſted by Dr. Clutterbuck, I attempted to do the operation for fiſtula lacrymalis upon a poor woman. After perforating the os unguis, and making a paſſage into the noſe, I filled up the opening with a tent of lint, intending ſoon after to introduce ſome more ſolid ſubſtance. The patient did not return for ſeveral days, when I found that the lint had got out, and the perforation from the lacrymal ſac into the noſe had cloſed. Finding that ſhe could not attend regularly, and having no intelligent perſon about her, all that appeared to be left us to do, was to attend to the diſeaſed ſac, and diſregard the future courſe of the tears. The inciſion into the ſac was filled up with dry lint, which was changed now and then. The inflammation and thickening of the ſac gradually diſappeared, the quantity of tears leſſened, and in the courſe of about two weeks the wound healed. I have ſeen her ſeveral times ſince, and there are as good ſigns of a complete cure as in thoſe inſtances which I have examined where the canal was kept open for a longer time: but no one would imagine that the opening into the noſe was preſerved in this caſe; all that appears probable is, that the ſac is obliterated, and the ſurrounding inflammation taken away. As the diſeaſe in the ſac vaniſhed, the weeping became leſs and leſs; and now (except when any unuſual irritation is preſented) the eye ſeems perfectly free from diſeaſe.

If it ſhould be found that theſe obſervations are in any wiſe founded in truth, inſtead of the painful and tedious operation of opening the ſac, perforating the *os unguis*, and obliging the patient to wear a metallic tube for months, a very ſimple and eaſy mode of cure might be ſubſtituted, attended with very lit-

tle pain or inconvenience. The ſac might be laid freely open, and occaſionally dreſſed with dry lint, until the parts coaleſced, or the cavity filled up by granulations. But no rule need be laid down: the intentions being known, each might accompliſh the end in the way he preferred.

I would not omit taking notice of another mode of cure, which comes recommended from the beſt authority, which is that of inſerting a ſilver ſtyle with a flattened and bent head, to be conſtantly worn. Mr. Ware thinks he has found it to conduct the tears into the noſe. Whether a deception ſimilar to that which I have already mentioned takes place here, I cannot ſay, as I have not had an opportunity of examining any one who was wearing it.

In all the different ways mentioned, cures are ſaid to have been effected. But it is inconceivable, that, after the uſe of corroſives, and ſtill more of the actual cautery, the parts ſhould be left in a ſituation fit to perform their functions: obliteration of the cavity ſeems to be inevitable after ſuch treatment. And when we find a ſolid ſtyle anſwering the purpoſe equally well with a hollow tube, there really appears reaſon to ſuſpect, that keeping open a communication with the noſe is not an eſſential part of the cure, and that in the greater number of caſes the cavity of the ſac is obliterated.

Med. and Chir. Rev.

On the late very mortal Fever of Gibraltar.

It is well known that two quite oppoſite opinions are entertained with reſpect to the nature of the cauſe of this fever. One party, by far the moſt numerous, maintain that the exciting cauſe is a ſpecific or peculiar contagious matter, i. e. a matter

generated in the conſtitution of perſons ill of the diſeaſe, and ſucceſſively propagated from ſuch diſeaſed perſons to others: another party, ſmall in number, but very weighty in talent and experience, maintain that the occaſional cauſe *is not contagion*, but depends upon the climate at particular ſeaſons, favoured by particular circumſtances. It is of infinite moment that this queſtion ſhould be determined, both for the ſatisfaction of the people of the United Kingdom, and as it concerns more particularly the reſidents and occaſional viſitants of the Rock of Gibraltar. The meaſures to be taken for the *cure*, but eſpecially for the *prevention* are ſo very different according to the opinions adopted, that if not the very exiſtence, at leaſt the diminution of the mortality, depends upon its determination. If it be true that the diſeaſe is *not contagious*, then the ſecluſion of perſons on board of expenſive and inconvenient floating lazarettos; the burning of beds and furniture; the deſertion of the neareſt relatives of the ſick*; the terror of being infected by intercourſe; the apprehenſion of the cauſe of the fever being imported into this and other countries; theſe and other meaſures and effects on the public mind become ſerious evils to the ſtate, and individual family calamities; to ſay nothing of the method of medical treatment.

If ſuch be the truth, and the exiſtence of contagion be diſproved, a change in the phyſical properties of the atmoſphere from hot and dry, to cold and moiſt, or ſome other change leſs obvious to the ſenſes, may be expected effectually to extinguiſh the diſeaſe, while the cure will depend upon the notion that may be adopted of the nature of the fever, as an *inflammatory one* or of the *typhus* kind. On this point, we underſtand, the ſame diverſity of opinion has ſubſiſted, as with regard to the contagious or non-contagious diſpoſition. We anxiouſly look for the

* It is a fact, that many were found dead in their beds, without an attendant.

hiſtory of the late fatal fever, from the medical gentlemen who attended in it; and we know more than one from whom the public rightfully expect complete ſatisfaction, and ſuch accounts as will in future eſtabliſh a fit and ſucceſsful mode of conduct. In the mean time, the propoſal of a prize queſtion by the king of Pruſſia, for determining "*whether or no the contagion of the yellow fever can be conveyed in ſubſtances deſtitute of life, without loſing its morbific efficacy*,"* is certainly premature; the previous queſtion, whether there is contagion or not, being hitherto undecided.

Med. and Chir. Rev.

Nickel proved to be a perfect and even noble Metal.

M. Richter, of Berlin, obtains *pure* nickel either by precipitating it from its diſſolution in nitrous acid by carbonate of potaſs, and expoſing the oxide ſo obtained to a fierce fire, without any reducing matter; or by decompoſing the triple ſalt of nickel and ſulphate of volatile alkali by potaſs, and expoſing the oxide to an intenſe fire, without any additional matter. The pure metal is formed in maſſes from the ſize of a ſmall nut to that of a millet ſeed, in a ſcoria containing the other metals, viz. copper, cobalt, and arſeniate of nickel.

Among other properties, metallic nickel has the following:

1. Its *colour* is intermediate between the whiteneſs of tin and of ſilver.
2. It is not oxidable by air and fire.
3. Its ſpecific gravity, when forged, is 8,666.
4. It is extremely ductile and malleable.
5. It is as difficult to fuſe as manganeſe.

* See Tilloch's Philoſophical Magazine, June 1805, p. 93.

6. Its oxide is reducible by fire alone.

7. Like iron, it is ſtrongly attracted by the magnet, and can aſſume polarity.

8. It is magnetic even when united to copper, but not when united to arſenic.

9. It is diſſoluble in nitro-muriatic and nitrous acid, but not in ſulphuric or muriatic.

Richter ſells it at Berlin for three Pruſſian crowns (about eleven ſhillings) a *gros* (drachm.)

Med. and Chir. Rev.

Platina and Palladium now Articles of Sale.

It will be welcome intelligence to experimenters in chemiſtry, and even to medical practitioners, that various utenſils of platina, ſuch as *crucibles*, *ſpoons* for the blowpipe, *evaporating diſhes*, *thin plates*, *wire*, weights, filings for ſolution, covers, &c. may be purchaſed, at comparatively very cheap rates, of Mr. Cary, inſtrument maker, in the Strand. For theſe articles it is underſtood the public are indebted to the reſearches of Dr. Wollaſton.

Palladium, a perfectly new ſubſtance to all the world, except a few perſons, is alſo announced for ſale, at Mr. Knight's, ironmonger, in Foſter lane, Cheapſide. We do not know whether or no a ſhop is yet opened for the ſale of utenſils made of *zinc*, but one is propoſed.

Med. and Chir. Rev.

Curious Caſe of cutaneous Affection. By T. GIRDLESTONE, M. D. *addreſſed to the Editors of the Medical and Philoſophical Journal.*

"GENTLEMEN,

About two years ago, two brothers of the name of Lambert, were ſhown to me, who came from a diſtant part of Suffolk, with a very extraordinary appearance, which came on in a few weeks after they were born, and had ever ſince remained extended over the ſkin, except on the face, palms of the hands, and ſoles of the feet, which were the only parts that were ſmooth and natural.

This deformity was a horny ſort of covering, which ſeemed moſt nearly to reſemble an innumerable body of warts of a brown colour, and cylindrical figure, riſing to an uniform height, of about half an inch, and growing as cloſe as poſſible to each other, but ſo ſtiff and elaſtic, that when the hand was drawn over them they made a ruſtling noiſe. Theſe young men ſaid, that they had a brother in the ſame manner, and their father and grandfather had the ſame ſort of ſkin; but, if I recollect rightly, that their ſiſter or ſiſters were free from this deformity. Theſe men were perfectly healthy and good looking; one was under 20, and the other not much older; but their complexions were unuſually florid. Theſe were all the particulars that a few minutes converſation with them enabled me to notice; and I did not know till I afterwards read the ſecond part of Dr. Willan's valuable work on the diſeaſes of the ſkin, that the caſe of Lambert the grand-father, and Lambert the father of theſe young men, had been ſo accurately detailed by Mr. Machin in 1731, and by Henry Baker, Eſq. in 1755, in the Philoſophical Tranſactions, as quoted by Dr. Willan, Order II. iv. Ichthyoſis; or I ſhould have inquired more minutely, how far all the circumſtances which are related

by theſe gentlemen correſponded with the deformity of this third generation of Lambert.* But perhaps ſome of your readers, who reſide in the neighbourhood of theſe men, may be able to ſupply my defects on this curious caſe.

T. GIRDLESTONE, M. D."

Yarmouth, October 25, 1802.

* "An extract from the minutes of the Royal Society, March 16, 1731, containing an uncommon caſe of diſtempered ſkin, by John Machin, Sec. R. S. &c.

"A country labourer, living not far from Euſton-Hall in Suffolk, ſhewed a boy (his ſon about 14 years of age, having a cuticular diſtemper, of a different kind from any hitherto mentioned in the hiſtories of diſeaſes.

"His ſkin (if it might be ſo called) ſeemed rather like a duſky coloured thick caſe, exactly fitting every part of his body, made of a rugged bark, or hide, with briſtles in ſome places, which caſe covering the whole excepting the face, the palms of the hands, and the ſoles of the feet, cauſed an appearance as if thoſe alone were naked and the reſt clothed. It did not bleed when cut or ſcarified, being callous and inſenſible. It was ſaid he ſheds it once every year, about autumn, at which time it uſually grows to the thickneſs of three-quarters of an inch, and then is thruſt off by a new ſkin which is coming up underneath.

"It was not eaſy to think of any ſort of ſkin, or natural integument, that exactly reſembled it. Some compared it to the bark of a tree; others thought it looked like ſeal-ſkin; others like the hide of the Elephant, or the ſkin about the legs of a Rhinoceros; and ſome took it to be like a great wart, or number of warts uniting and overſpreading the whole body. The briſtly parts, which were chiefly about the belly and flanks, looked and ruſtled like the briſtles or quills of a hedge-hog, ſhorn off within an inch of the ſkin.

"His face was well featured, and of a good complexion, if not rather too ruddy; and the palms of his hands were not harder, or in worſe condition, than is uſual for workmen or labourers. His ſize was proper for his age; his body and limbs ſtraight, and, excepting as to this deformity, well ſhapen.

"This rugged covering gave him no pain or uneaſineſs, unleſs that ſometimes after hard work, it was apt to ſtart and cleave, and cauſe a bleeding: and notwithſtanding the unuſual diſpoſition of his humours to form ſo ſtrange an in-

The next chain in the hiſtory of theſe extraordinary caſes is the one above related, by Dr. Girdleſtone, ſince which they are thus noticed in the Bulletin des Sciences, Vol. 3. p. 145, at a ſitting of the Philomathic Society.

"*Remarks on two Brothers of the Race of Porcupine Men.*

"Many philoſophers have already ſpoken of this race, which has been exemplified in a family ſufficiently known,

tegument, his natural excretions were ſaid to be in the ordinary courſe and manner, without any thing remarkable attending them.

"The father knew of no accident to account for this diſtempered habit; but, ſaid that his ſkin was clear at his birth, as in other children, and ſo continued for about ſeven or eight weeks, after which, without his being ſick, it began to turn yellow, as if he had had the jaundice; from which by degrees it changed black, and in a little time afterwards thickened, and grew into that ſtate it appeared in at preſent: That he has been in health from his birth, and hath no ſickneſs at the ſeaſon when he ſheds it. He further ſaid that his mother had received no fright to his knowledge, whilſt ſhe was with child; and hath borne him many children, none of which have ever had this or any other unuſual diſtemper or deformity."

See Philoſophical Tranſactions abridged, by Reid and Gray, Vol. 6th. Supplement, p. 65. *A plate, repreſenting the back of the boy's hand, accompanies the paper.*

In the 49*th. Vol. of the Philoſophical Tranſactions for the year* 1755, *we have the following account by Henry Baker, called* "A ſupplement to the account of a diſtempered ſkin, &c.

After having ſtated that ſuch a boy had been exhibited to the ſociety, whoſe caſe was drawn up by Mr. Machin, Mr. Baker adds, "As more than four and twenty years are now paſt ſince this account was given, and the perſon therein mentioned is ſtill alive, and was lately ſhewn at London, by the name of the Porcupine man, with a boy in the like condition, both which I ſaw and examined; ſome farther knowledge of him, may not, I hope, be thought undeſerving the attention of the Royal Society.

"His name is Edward Lambert. He is now 40 years of age; a good-looking well-ſhaped man, of a florid countenance; and when his body and hands are covered, ſeems nothing different from other people. But except his head and

by the name of Lambert. Two brothers of this family, the males of which have the body covered with thorns and ſcales are at preſent in Paris; one aged 22, the other 14. The eldeſt has the body entirely thorny, with the exception of the head, the palms of the hands, and ſoles of the feet. The youngeſt

face, the palms of his hands and bottom of his feet, his ſkin is all over covered in the ſame manner as in the year 1731," (here we are referred to the preceding account.) "This covering ſeemed to me moſt nearly to reſemble an innumerable company of warts, of a dark-brown colour, and a cylindric figure, riſing to a like height, and growing as cloſe as poſſible to one another; but ſo ſtiff and elaſtic, that, when the hand is drawn over them, they make a ruſtling noiſe.

"When I ſaw this man, in the month of September laſt, they were ſhedding off in ſeveral places, and young ones, of a paler brown, ſucceeding in their room, which, he told me, happens annually in ſome of the autumn or winter months; and then he commonly is let blood, to prevent ſome little ſickneſs, which he elſe is ſubject to, whilſt they are falling off. At other times he is incommoded by them no otherwiſe, than by the fretting out his linen, which he ſays, they do very quickly; and when they come to their full growth, being then, in many places near an inch in height, the preſſure of his clothes is troubleſome.

"He has had the ſmall-pox, and been twice ſalivated, in hopes of getting rid of this diſagreeable covering; during which diſorders the warting came off, and his ſkin appeared white and ſmooth, like that of other people; but on his recovery, ſoon became as it was before. His health at other times has been very good during his whole life.

"But the moſt extraordinary circumſtance of this man's ſtory, is, that he has had ſix children, all with the ſame rugged covering as himſelf; the firſt appearance whereof in them, as well as in him, came on in about nine weeks after the birth. Only one of them is now living, a very pretty boy, eight years of age, whom I ſaw, and examined, with his father, and who is exactly in the ſame condition.

"It appears therefore paſt all doubt, that a race of people may be propagated by this man, having ſuch rugged coats or coverings as himſelf," &c.

A plate of this boy's hand is likewiſe given, very much reſembling the former one by Mr. Machin.

is bare in ſeveral places, eſpecially on the breaſt;—but the brown ſpots, ſufficiently evince, that he will become by age, as well covered as his brother. The thorns on the back of the hands are very large, and may be compared in diameter to Porcupine quills; but thoſe on the breaſt have a greater reſemblance to ſcales. They conſiſt of ſmall long plates, very numerous, extremely cloſe, and are placed perpendicularly in the ſkin.

This thickening of the epidermis, and of the hair, is the effect of an hereditary diſeaſe, tranſmitted from father to ſon. They reckon already five generations afflicted with it."

From experiments made upon gluten, by Charles Louis Cadet, of the College of Pharmacy, Paris, and related in a memoir in the Annales de Chimie, No. 123, the following concluſions are drawn:

1ſt. Freſh gluten is inſoluble in alcohol.

2d. It becomes ſoluble when it has undergone the acid fermentation.

3d. Alcoholic ſolution of gluten is precipitated by water.

4th. This ſolution, evaporated to the conſiſtence of ſyrup, furniſhes a varniſh which may be employed in the arts.

5th. Fermented gluten, diluted in alcohol, becomes an excipient of colouring matters, and makes them adhere to the ſmootheſt bodies.

6th. Vegetable colouring ſubſtances combine with gluten better than others.

7th. Painting, where gluten has been uſed, dries very ſoon, has no noxious odour, and may be waſhed.

8th. A very ſtrong and tenacious luting may be made with gluten and lime.

Tilloch.

Syphon.

A ſyphon has been invented by Mr. Norton, " which may be eaſily filled without the neceſſity of employing the air pump. At the bottom of the ſhorter leg is a valve opening upwards, and to the bottom of the longer leg is fitted a plug, which is put in while the ſyphon is filling at the bended part, where there are ſmall projecting tubes for giving vent to the air during the filling; the ſyphon is then plunged into the fluid, the plugs in the upper part of the ſyphon fixed in, and that in the lower part of the longer leg taken out; the fluid will begin running, and of courſe the valve at the end of the ſhorter leg will open, and the ſyphon act as in common caſes."

Monthly Magazine.

Explanation of the ſuppoſed Fact, that Rhubarb is rendered more aſtringent by roaſting.

Catechu, and other ſubſtances remarkable for their aſtringent properties are known to contain a large proportion of the principle called *tannin.* They alſo contain *gallic* acid. The former united to the ſkin affords leather. The latter, by uniting to ſulphate of iron, conſtitutes ink. It is not quite certain which of theſe, or whether both of them, are the aſtringent ingredient. It is probable that tannin is the moſt powerful, if not the only aſtringent matter; becauſe catechu is almoſt pure

tannin. It has been long known, that, by roaſting coffee berries and other ſubſtances, the tannin is compounded; and Mr. Hatchett has lately ſhewn, that any carbonaceous ſubſtance whatever, whether animal, vegetable, or mineral, will afford tannin, by due carbonization. Hence it ſeems probable, that, by roaſting rhubarb root, the tannin is augmented much above the proportion in its natural ſtate, and that, contrary to the modern received opinion, the medicine is really, in ſome reſpects, improved by the proceſs.

Med. and Chir. Rev.

On an artificial Subſtance which poſſeſſes the principal characteriſtic Properties of Tannin. *By* CHARLES HATCHETT, *Eſq.* F. R. S.

The diſcovery of the principle on which the effects of tannin eſſentially depend, may be partly attributed to Mr. Deyeux, who obtained a ſubſtance from galls which he conſidered as a ſpecies of reſin, but which was afterwards proved by Mr. Seguin to be that which renders the ſkins of animals inſoluble in water, and imputreſcible, and thus to be the principle by which they are converted into leather.

The chief characteriſtic property of this ſubſtance was aſcertained by Mr. Seguin to be that of precipitating gelatine or glue from water in a ſtate of inſolubility; and, as it was evidently different from any vegetable ſubſtance hitherto diſcovered, he gave it the name of tannin.

This diſcovery of Mr. Seguin at once unveiled the theory of the art: an eaſy and certain method was afforded by which tannin could be detected, and its relative quantity in different ſubſtances be determined, whilſt the nature and properties of

this newly diſcovered vegetable principle could be ſubjected to accurate inveſtigation.

This diſcovery has been more lately elucidated by the experiments of Mr. Biggin, Mr. Prouſt, and Mr. Davy; the latter of whom diſcovered that catechu, or *terra japonica*, conſiſts almoſt wholly of tannin. This principle is likewiſe found to exiſt ready formed in a number of other vegetable ſubſtances, as oak bark, ſumach, &c. &c. and is in theſe caſes commonly combined with gallic acid, extract, and mucilage. The experiments of Mr. Hatchett, here detailed, prove that a ſubſtance poſſeſſing the chief characteriſtic properties of tannin may be formed by very ſimple means, not only from vegetable, but from mineral and animal ſubſtances. This curious fact, ſo important in its conſequences as it may be expected to turn out, is thus announced by the ingenious author.

'In the courſe of my experiments on lac, and on ſome of the reſins, I had occaſion to notice the powerful effects produced on them by nitric acid; and I have ſince obſerved, that, by long digeſtion, almoſt every ſpecies of reſin is diſſolved, and is ſo completely changed, that water does not cauſe any precipitation; and that, by evaporation, a deep yellow viſcid ſubſtance is obtained, which is equally ſoluble in water and in alcohol, ſo that the reſinous characters are obliterated.

'When I afterwards had diſcovered a natural ſubſtance, which was compoſed partly of a reſin ſimilar to that of recent vegetables, and partly of aſphaltum, I was induced to extend the experiments already mentioned to the bitumens, in the hope of obtaining ſome characteriſtic properties by which the probable original identity of theſe bodies with vegetable ſubſtances might be farther corroborated. In this reſpect I ſucceeded, in ſome meaſure, better than I expected; but I obſerved a very material difference between the ſolutions of the reſins and thoſe

of many of the bitumens; ſuch, for inſtance, as aſphaltum and jet. The firſt effect of nitric acid, during long digeſtion with theſe ſubſtances, was to form a very dark brown ſolution, whilſt a deep yellow or orange coloured maſs was ſeparated, which by ſubſequent digeſtion in another portion of nitric acid was completely diſſolved, and by evaporation was converted into a yellow viſcid ſubſtance, equally ſoluble in water and in alcohol, ſo as to perfectly reſemble that which by ſimilar means had been obtained from the reſins, excepting that, when burned, it emitted an odour ſomewhat reſembling that of the fat oils.

'It therefore appeared to me, that the firſt or dark brown ſolution had been formed by the action of the nitric acid on the *uncombined* carbonaceous part of the bitumens, or that by which they are rendered black; and that the deep yellow portion, which was ſeparated, was that which conſtituted the real or eſſential part of theſe bituminous ſubſtances. This opinion was confirmed by ſome experiments which I purpoſely made upon amber; and having every reaſon, therefore, to believe that the dark brown ſolution obtained from aſphaltum and jet was in fact a ſolution of coal, I repeated the experiments on ſeveral varieties of the pit or mineral coal, from all which I obtained the dark brown ſolution in great abundance: but thoſe coals which contained little or no bitumen did not yield the deep yellow ſubſtance which has been mentioned.

'In each experiment I employed one hundred grains of the coal, which I digeſted in an open matraſs with one ounce of nitric acid diluted with two ounces of water. (The ſpecific gravity of the acid was 1.40.)

'After the veſſel had been placed in a ſand-bath, and as ſoon as it became warm, a conſiderable effervеſcence, attended with much nitrous gas, was produced: after about two days I commonly added a ſecond, and ſometimes a third ounce of the

acid, and continued the digeſtion during five or ſix days, or until the whole, or nearly the whole was diſſolved, excepting in thoſe caſes when the deep yellow ſubſtance was formed; for this I conſtantly ſeparated.

'The next experiment was made upon charcoal, which was more readily diſſolved than the preceding ſubſtances, without leaving any reſiduum: the ſolution was perfect, and the colour was reddiſh brown.

'Having thus, by means of nitric acid, obtained ſolutions from aſphaltum, from jet, from ſeveral of the pit coals, and from charcoal, I evaporated them to dryneſs in ſeparate veſſels, taking care in the latter part of the proceſs to evaporate very gradually, ſo as completely to expel the remainder of the acid without burning the reſiduum: this, in every caſe, proved to be a brown gloſſy ſubſtance, which exhibited a reſinous fracture.

'The chemical properties of theſe reſidua were as follow:

'1. They were ſpeedily diſſolved by cold water and by alcohol.

'2. Their flavour was highly aſtringent.

'3. Expoſed to heat, they ſmoked but little, ſwelled much, and afforded a bulky coal.

'4. Their ſolutions in water reddened litmus paper.

'5. The ſame ſolutions copiouſly precipitated the metallic ſalts, eſpecially muriate of tin, acetite of lead, and oxyſulphate of iron. The colour of theſe precipitates was commonly brown, inclining to that of chocolate, excepting the tin, which was blackiſh grey.

'6. They precipitated gold from its ſolution, in the metallic ſtate.

'7. They alſo precipitated the earthy ſalts, ſuch as the nitrates of lime, barytes, &c. &c.

'8. The fixed alkalies, as well as ammonia, when firſt added to theſe ſolutions, only deepened the colour; but after ſome hours, rendered them turbid.

'9. Glue or iſinglaſs was immediately precipitated by theſe ſolutions from water, and the precipitates were more or leſs brown according to the ſtrength of the ſolutions. The precipitates were alſo inſoluble in cold and in boiling water; ſo that in their eſſential properties they proved ſimilar to thoſe formed by the varieties of tannin hitherto known, with the difference, that this factitious ſubſtance appeared to be exempt from gallic acid, and mucilage, which commonly accompany the varieties of tannin, and which occaſion modifications in the colour and appearance of ſome of their precipitates.

'Having thus had the ſatisfaction to diſcover that a product reſembling tannin could be formed by ſuch a ſimple method, not only from vegetable but alſo from mineral coal, I was induced to examine how far the ſame might be extended to animal coal, and I therefore reduced a portion of iſinglaſs to that ſtate in a cloſe veſſel, and, having rubbed it into fine powder, I digeſted it with nitric acid in the manner which has been deſcribed. At firſt the acid did not appear to act upon it, but at length it was ſlowly diſſolved, excepting a ſmall quantity, which however, was in every reſpect unchanged; and here we may remark, that as animal coal is incinerated with much more difficulty than vegetable coal or charcoal, ſo was the ſame difference to be obſerved when oxygen was preſented to theſe bodies in the humid way.

'The ſolution reſembled thoſe which have been deſcribed, excepting that the brown colour was more intenſe. It was evaporated to dryneſs, and was then diſſolved in diſtilled water; after which the ſolution, being examined by the re-agents which had been employed in the former experiments, was

found to produce ſimilar effects, excepting ſome difference in the colour of the precipitates.

'I next added ſome of the liquid to a ſolution of iſinglaſs, and obtained a copious precipitate. Thus it is evident that a tanning ſubſtance may be formed from animal as well as from vegetable and mineral coal: and it is not a little curious, that this enables us to aſſert as a matter of fact, although not of economy, that one portion of the ſkin of an animal may be employed to convert the other into leather.

'In the courſe of theſe experiments, I alſo ſubjected coak to the action of nitric acid, and obtained a product which reſembled that which had been afforded by pit coal; but in this caſe (as might be expected) there was not any appearance of the deep yellow ſubſtance which has ſo often been mentioned.'

Theſe experiments prove, that a tanning ſubſtance may be formed by artificially expoſing carbon to the action of nitric acid: and it alſo appears, from other experiments here related, that this is beſt effected when the carbon is uncombined with any other ſubſtance excepting oxygen; for when any of the inflammable ſubſtances, as, the reſins, turpentine, wood, amber, wax, and certain kinds of coal that appear to be imperfectly carbonized, ſuch as the *Bovey* coal, were treated with nitric acid in the manner above mentioned, the tanning matter was not produced: but when, either by combuſtion or by the help of ſulphuric acid, they were converted into carbon, the tanning principle was formed.

'Since the preceding experiments were made,' Mr. Hatchett obſerves, 'I have farther proved the efficacy of this ſubſtance by actual practice, and have converted ſkin into leather by means of materials, which, to profeſſional men, muſt appear extraordinary; ſuch as, deal ſaw-duſt, aſphaltum, common

turpentine, pit coal, wax candle, and a piece of the ſame ſort of ſkin.

'Allowing, therefore, that the production of this ſubſtance muſt for the preſent be principally regarded only as a curious chemical fact not altogether unimportant; yet, as the principle on which it is founded appears to be developed, we may hope that a more economical proceſs will be diſcovered, ſo that every tanner may be enabled to prepare his leather even from the refuſe of his preſent materials.'

Med. and Chir. Rev.

*Of the State of Medicine among the Anglo-Saxons.**

Inquiries into the ſtate of medicine in rude and barbarous ages afford not merely a ſubject of curioſity, but often of utility. By comparing the diſorders of thoſe periods with the known habits and modes of life of the people, we frequently diſcover relations that enable us to aſſign the remote cauſes of diſeaſe, and conſequently facilitate the means of prevention, if not of cure. The following account of the ſtate of medicine among our Saxon anceſtors will probably be deemed not unintereſting.

"Among the diſorders which afflicted the Anglo-Saxons, we find inſtances of the ſcrophula, the gout, or foot-adl; fever, or gedrif; paralyſis, hemiplegia; ague, dyſentery, conſumption, or lungs-adl; convulſions, madneſs, blindneſs, diſeaſed head, the head-ach (heafod-ece), and tumours in various

* From a learned and ingenious work, entitled *The Hiſtory of the Manners, landed Property, Government, Laws, Poetry, Literature, Religion, and Language, of the Anglo-Saxons: by* Sharon Turner, *Eſq. F. A. S.* 8vo. publiſhed by Longman and Co. 1805.

parts. But if we conſider the charms which they had againſt diſeaſes as evidence of the exiſtence of thoſe diſeaſes, then the melancholy catalogue may be increaſed by the addition of the poccas (puſtules), ſore eyes and ears, blegen and blacan blegene (blains and boils), elffidenne (the night-mare), cyrnla (indurated glands), toth-ece, aneuriſms (wennas et mannes, heortan), and ſome others.

"Nations in their barbarous æras have uſually conſidered diſeaſes to be the inflictions of evil beings, whoſe power exceeded that of man. Adapting their practice to their theory, they have met the calamity by methods which were the beſt adapted, according to their ſyſtem, to remove them; that is, they attacked ſpells by ſpells. They oppoſed charms and exorciſms to what they believed to be the work of demoniacal incantations. The Anglo-Saxons had the ſame ſuperſtitions. Their pagan anceſtors had referred diſeaſes to ſuch cauſes, and, believing the principle, they reſorted to the ſame remedies. Hence we have in their MSS. a great variety of incantations and exorciſms againſt the diſorders which diſtreſſed them.

"When ſome of their ſtronger intellects had attained to diſcredit theſe ſuperſtitions, and eſpecially after chriſtianity opened to them a new train of aſſociations, this ſyſtem of diſeaſes originating from evil ſpirits, and of their being curable by magical phraſes, received a fatal blow. It had begun to decline before they were enlightened by any juſt medical knowledge; and the conſequence was, that they had nothing to ſubſtitute in the ſtead of charms, but the fancies and pretended experience of thoſe who arrogated knowledge on the ſubject. Before men began to take up medicine as a profeſſion, the domeſtic practice of it would of courſe fall on females, who, in in every ſtage of ſociety, aſſume the kind taſk of nurſing ſickneſs; and of theſe the aged, as the moſt experienced, would be preferred.

" But the Anglo-Saxons, ſo early as the ſeventh century, had men who made the ſcience of medicine a ſtudy, and who practiſed it as a profeſſion. It is probable that they owed this invaluable improvement to the chriſtian clergy, who not only introduced books from Rome, but who, in almoſt every monaſtery, had one brother who was conſulted as the phyſician of the place. We find phyſicians frequently mentioned in Bede; and among the letters of Boniface, there is one from an Anglo-Saxon, deſiring ſome books *de medicinalibus*. He ſays they had plenty of ſuch books in England, but that the foreign drawings in them were unknown to his countrymen, and difficult to acquire.

" We have a ſplendid inſtance of the attention they gave to medical knowledge in the Anglo-Saxon medical treatiſe deſcribed by Wanley, which he ſtates to have been written about the time of Alfred. The firſt part of it contains 88 remedies againſt various diſeaſes. The ſecond part adds 69 more; and in the third part are 76. Some lines between the ſecond and third part ſtate it to have been poſſeſſed by one Bald, and to have been written at the command of Cild. It is probably a compilation from the Latin medical writers. Wanley preſumes that Bald wrote it; but the words imply rather poſſeſſion than authorſhip.

" We find ſeveral Saxon MSS. of medical botany. There is one, a tranſlation of the Herbarium of Apuleius, with ſome good drawings of herbs and flowers, in the Cotton Library. Their remedies were uſually vegetable medicines.

" We have few hints of their ſurgical attentions, but they ſeem not to have exceeded thoſe common operations which every people, a little removed from barbariſm, cannot fail to know and uſe.

"We read of a ſkull fractured by a fall from a horſe, which the ſurgeon cloſed and bound up; of a man whoſe legs and arms were broken by a fall, which the ſurgeons cured by tight ligatures; and of a diſeaſed head, in the treatment of which the medical attendants were ſucceſsful. But we find many caſes in which their efforts were unavailing. Thus, in an inſtance of a great ſwelling on the eyelid, which grew daily, and threatened the loſs of the ſight, the ſurgeons exerted their ſkill to no purpoſe, and declared that it muſt be cut off. In a caſe of a great ſwelling, with burning heat, on the neck, where the necklace came, it was laid open to let out the noxious matter. This treatment gave the patient eaſe for two days, but on the third the pains returned, and ſhe died. Another perſon had his knee ſwelled, and the muſcles of his leg drawn up till it became a contracted limb. Medical aid is ſaid to have been exhibited in vain, till an angel adviſed wheat flour to be boiled in milk, and the limb to be poulticed with it while warm. To recover his frozen feet, a perſon put them into the bowels of a horſe.

"Veneſection was in uſe. We read of a man bled in the arm. The operation ſeems to have been done unſkilfully, for a great pain came on while bleeding, and the arm ſwelled very much. Their lancet was called œder-ſeax, or vein-knife. But their practice of phlebotomy was governed by the moſt miſchievous ſuperſtition. It was not uſed when expediency was required, but when their ſuperſtitions permitted. They marked the ſeaſons and the days on which they believed that bleeding would be fatal. Even Theodore, the monk, to whom they owed ſo much of their literature, added to their follies on this ſubject, by imparting the notion that it was dangerous to bleed when the light of the moon and the tides were increaſing. According to the rules laid down in an Anglo-Saxon M. S. the 2d, 3d, 5th, 6th, 9th, 11th, 15th, 17th, and

20th days of the month were bad days for bleeding. On the 10th, 13th, 19th, 21ſt, 23d, 24th, 25th, 26th, and 28th days, it was hurtful to bleed, except during certain hours of the day. The reſt of the month was proper for phlebotomy. They had their tales to ſupport their credulity. Thus we read of 'ſum lœce, or a phyſician, who let his horſe blood on one of theſe days, and it lay ſoon dead.'

"We will add, as a ſpecimen of their medical charms, their incantation to cure a fever.

"In nomine dni nri Jhu Xpi tera tera tera teſtis contera taberna giſe ges mande leis bois eis andies mandies moab leb lebes Dns ds adjutor ſit illi ill eax filiax artifex am."

"Two of their medicines may be added, one for the cure of conſumption, the other for the gout.

"With lungen adle."

"Take hwite hare hunan (white horehound), and yſopo (hyſſop), and rudan (rue), and galluc (ſow-bread), and briſewyrt and brunwyrt (brownwort), and wude merce (parſley), and grundeſwylian (groundſel), of each 20 pennyweights, and take one ſeſter* full of old ale, and ſeeth the herbs till the liquor be half boiled away. Drink every day faſting a neap-full cold, and in the evening as much warm.

"With fot adle (the gout)."

"Take the herb datulus or tituloſa, which we call greata crauleac (tuberoſe iſis). Take the heads of it, and dry them very much, and take thereof a pennyweight and a half, and the

* Fifteen pints.

pear tree and roman bark, and cummin, and a fourth part of laurel berries, and of the other herbs half a pennyweight of each, and ſix pepper corns, and grind all to duſt, and put two eggſhells-full of wine. This is a true leech-craft. Give it to the man to drink till he be well."

Of the Food of the Anglo-Saxons.—" Their food was that mixture of animal and vegetable diet which always attends the progreſs of civilization. They reared various ſorts of corn in incloſed and cultivated lands, and they fed domeſticated cattle for the uſes of their table.

" For their animal food they had oxen, ſheep, and great abundance of ſwine; they uſed, likewiſe, fowls, deer, goats, and hares; but though the cattle are not unfrequently mentioned in their grants and wills, and were often the ſubjects of exchange, yet the animals moſt numerouſly ſtated are the ſwine. The country in all parts abounded with wood, and woods are not often particularized without ſome notice of the ſwine which they contained: they alſo frequently appear in wills. Thus Alfred, a nobleman, gives to his relations an hide of land, with 100 ſwine; and he directs 100 ſwine to be given for his ſoul to one miniſter, and the ſame number to another; and to his two daughters he gives 2000 ſwine. So Elfhelm gives land to St. Peter's, at Weſtminſter, on the expreſs condition that they feed 200 of theſe animals for his wife.

" They ate various kinds of fiſh; but of this deſcription of their animal food the ſpecies which is moſt profuſely noticed is the eel. They uſed eels as abundantly as ſwine. Two grants are mentioned, each yielding 1000 eels, and by another 2000 were received as an annual rent. Four thouſand eels were a yearly preſent from the monks of Ramſey to thoſe of Peterborough. We read of two places, purchaſed for 21 pounds, wherein 16000 of theſe fiſh were caught every year; and in

one charta, 20 fiſhermen are ſtated, who furniſhed, during the ſame period, 60000 eels to the monaſtery. Eel dikes are often mentioned in the boundaries of their lands."

"Horſe fleſh, which our delicacy rejects with averſion, appears to have been uſed, though it became unfaſhionable as their civilization advanced. The Penitentiale ſays, 'Horſe-fleſh is not prohibited, though many families will not buy it. But in the council held in 785, in Northumbria, before Alfwold, and in Mercia, before Offa, it was diſcountenanced.' 'Many among you eat horſes, which is not done by any chriſtians in the eaſt: avoid this.'

"But though animal food was much in uſe among our anceſtors, it was as it is with us, and perhaps will be in every country in which agriculture has become habitual, and population much increaſed, rather the food of the wealthier part of the community than of the lower orders.

"That it could not be afforded by all is clear, from the incident of a king and queen viſiting a monaſtery, and inquiring, when they ſaw the boys eating only bread, if they were allowed nothing elſe. The anſwer returned was, that the ſcanty means of the ſociety could afford no better. The queen then petitioned the king to enable them to provide additional food."

Med. and Chir. Rev.

Experiments on hammering Metals.

Some experiments have been lately made in France, ſhewing that there is a limit to the production of heat by hammering metals; a fact which is in favour of the materiality of heat.

Med. and Chir. Rev.

Quickſilver proved to be a malleable Metal.

Some experiments have been made at Hudſon's Bay, in which quickſilver, when congealed, was beat out into a plate as thin as writing paper, upon an anvil, and with a hammer of the ſame temperature as the quickſilver itſelf.

A curious experiment was made: on plunging a maſs of frozen quickſilver into a tumbler glaſs of *hot* water, the water was inſtantly frozen, the glaſs burſt into pieces, and the quickſilver became fluid.

Med. and Chir. Rev.

A manufacturer of Sheffield has not only rolled out zinc into plates, but found that at a certain temperature it is both very malleable and ductile, ſo that wire is eaſily made of it. It is propoſed alſo to have a number of kitchen utenſils in future made of zinc, or of zinc and tin, after the manner of the Chineſe. This material, it is hoped, will baniſh, or at leaſt render leſs frequent, the uſe of lead and copper for culinary veſſels.

Med. and Chir. Rev.

* Of all the objects of chemiſtry animal matters are the moſt embarraſſing to it, on account of the great complication of

* From the proceedings of the French National Inſtitute.

their elements, and becauſe the ſimpleſt agent that can be applied to them produces in them a thouſand movements and transformations, the play of which eſcapes us, and of which we judge only by the reſults. This is what takes place, for example, when theſe matters are treated with nitric acid,—a method firſt employed by Scheele and Bergman, and from which M. Berthollet obtained ſo intereſting reſults. The moſt apparent phænomenon, then, is the developement of a great quantity of azote. Thoſe next obſerved are an alteration of the acid; the production of a great deal of ammonia, of carbonic, oxalic, and malic acid; and the transformation of a part of theſe matters into tallow, and of another into a yellow bitter ſubſtance. But theſe effects vary, according to the ſtrength of the acid, the duration of its action, and the nature of the matters ſubjected to it.

Meſſrs. Fourcroy and Vauquelin, by directing their reſearches to theſe variations, and the circumſtances which attend them, have found that nitric acid applied to the muſcular fibre, that is to ſay, fleſh, transforms it by a firſt impreſſion into a yellow matter, little ſapid, little ſoluble, and yet acid; by a longer continued action, into another matter, alſo yellow and acid, but very little ſoluble and exceedingly bitter; and, in the laſt place, into a third matter, ſoluble but inflammable, and, what is very curious, detonating, not only in heat, like common gunpowder, but alſo by percuſſion.

Indigo furniſhes a ſimilar matter, and ſtill more abundantly than animal matters. Meſſrs. Hauſſman and Walther had obſerved it for ſome time. Meſſrs. Fourcroy and Vauquelin ſuppoſe it to be produced by the diſappearance of azote, and by the combination of the hydrogen and carbon of the fleſh with a ſuperabundance of oxygen furniſhed by the acid. They ſuppoſe that the yellow matter which tinges the bile, and that

which colours the ſkin and the urine during the jaundice, is produced alſo by ſome combination of oxygen with the fibrine matter of the muſcles, or with that of the blood.

Meſſrs. Fourcroy and Vauquelin have employed themſelves alſo on the analyſis of milk; and their reſearches have greatly ſimplified the theory of it. They have diſcovered that the acid which is developed in it, and which was conſidered to be of a particular nature, is nothing but the acid of vinegar modified by ſome animal ſubſtances and ſome ſalts which it holds in ſolution. Milk, according to them, muſt be conſidered as a mixed liquor conſiſting of a great deal of water and of two kinds of matters, ſome of them really diſſolved, as ſugar, mucilage, muriate and ſulphate of potaſs, and acetic acid; others merely ſuſpended, as the matter of cheeſe, that of butter, and the phoſphates of iron, lime and magneſia.

Conſidering the infinite complication of this firſt aliment of young animals, theſe gentlemen give us new motives for admiring the providence of nature, which has depoſited in it all the materials of ſpeedy growth. The caſeous ſubſtance is almoſt the ſame as that of the muſcles; the phoſphate of iron is one of the elements of the blood; and that of lime forms the earthy baſis, and is the cauſe of the hardneſs of the bones.

Theſe gentlemen alſo have made a remark which may be intereſting to medicine: it is, that the whey does not contain phoſphoric ſalts, but when it can diſſolve them in an exceſs of acid, and that it contains none when it is ſweet.

Tilloch.

Silver, ſuperior to Plumbago, for writing on Aſſes-ſkin.

Mr. Rubens Peale, of this city, has by chance diſcovered, the ſuperiority of ſilver over the common black-lead pencil, to write with, on the ſubſtance called Aſſes-ſkin. The marks are perfectly diſtinct, and are rubbed out without the ſmalleſt difficulty, with the finger. A ſmall pencil of ſilver attached to the extremity of the caſe, will anſwer very completely.

New York Medical Society.

The legiſlature of New York, on the 4th April ult. paſſed "an act to incorporate Medical Societies, for the purpoſe of regulating the practice of phyſic and ſurgery, in that ſtate."

The following gentlemen have been choſen charter officers of the Medical Society of the county of New York, according to the act of the legiſlature for their incorporation.

Preſident,	Dr. Nicholas Romayne.
Vice-Preſident,	Dr. James Tillary.
Delegate to the State Society,	The Hon. Dr. Samuel L. Mitchill.
Cenſors,	Dr. John R. B. Rodgers,
	Dr. Wright Poſt,
	Dr. William Hamerſley,
	Dr. James S. Stringham,
	Dr. David Hoſack.
Treaſurer,	Dr. Valentine Seaman.
Secretary,	Dr. Archibald Bruce.

LITERARY INTELLIGENCE.

PROPOSALS have been iſſued by Dr. F. Paſcalis of New York (late of Philadelphia) for publiſhing by ſubſcription a work in two volumes Octavo, entitled "Pyrroloimogia; or, Inquiries into the Peſtilence called Yellow Fever, containing the hiſtory of its ſymptoms and prevalence in different parts of the world; a comparative ſtatement of all controverſies reſpecting its origin, modes of propagation and treatment; with an attempt towards a new theory of the electrical phenomena and Galvanic influence, ariſing from terraqueous and putrid exhalations, which explains the cauſe of peſtilential diſeaſes, their remedies and preventives."

This work will be compriſed in two volumes Octavo, each volume containing more than 300 pages, to be delivered to Subſcribers in boards at five dollars the ſet, or handſomely bound and lettered at ſix dollars.

Dr. Shadrach Ricketſon, of New York, has now in the preſs, his work, entitled "Means of preſerving Health, and preventing Diſeaſes, &c."

It is deſigned, not merely for the faculty, but for the information of every perſon, within whoſe powers, the means of preſerving health and preventing diſeaſes, in a great meaſure conſiſt.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

(Continuation of Cowhage from laſt number.)

CHAP. IV.

CURE.

WHEN, from the exiſting ſymptoms, all other circumſtances conſidered, it is known, or ſuſpected, that *worms* are the cauſe of diſturbance in the ſyſtem, it becomes our buſineſs to get rid of them as ſoon as we can, and with as little danger to the patient as poſſible.

In this view, the indications are, firſt, to adminiſter ſuch medicines as will oblige them to let go their hold, and diſlodge them from their ſituation; ſecondly, to expel them from the body; and thirdly, to prevent a return of the complaint, by ſuch medicines and regimen as will invigorate the ſyſtem, and prevent the accumulation of viſcid mucus in the inteſtines.

Many and various have been the medicines exhibited, and even celebrated, for the expulſion of theſe inteſtine enemies.

Bitter purgatives, oily medicines, chalybeates, preparations of tin, iron, and zinc; garlic, helleboraſter, the root of the male fern, which is the baſis of Madam Nouffer's celebrated Swiſs

remedy—draſtic and reſinous cathartics; the juices of plants celebrated for their anthelmintic qualities, have all had their turn, and all, in their turn, have failed.

Bitters will not prove effectual, for *Le Clerc* tells us, that he found worms, not only in the liver, but in the gall-bladder itſelf, of a ſheep which he diſſected; which were active and lively, ſwimming in the gall itſelf, the bittereſt of all the ſecretions.*

Oils, which kill all other inſects, will not here anſwer. It is true, it may deſtroy a few Aſcarides in the vicinity of the rectum, when adminiſtered as a glyſter: but how is the oil to be conveyed into the jejunum, or ileum, unaltered, ſo as to drown the *teres*, or a *tape-worm?* The tract of the inteſtines it has to paſs through, and the changes it undergoes before it reaches the ſeat of worms, render it inert. But we are even told the experiment has been made of putting live *teretes* into common oil, in which they have lived and moved for *ſeveral hours*.†

Practitioners not attached to any particular remedy, among thoſe generally conſidered as ſpecifics, place dependence on mercurials; but mercury, in all its various forms, has been exhibited in many millions of real worm caſes, without any other effect than injuring the conſtitution.

And here I muſt take permiſſion for the ſake of the ſons and daughters of Africa, and their deſcendants, to make a few ob-

* Le Clerc, Hiſt. Lumb. lat. p. 94.

† Nonnulli affirmaverunt ad vermis vitam neceſſe eſt, ut quædam materies perſpirabilis e corpore prodeat, et hanc repellendo, vermis necari dicitur. Hinc, OLEUM exhibetur; hæc opinio in incerto eſt, et ſi vera ſit, a longitudine inteſtinorum vix poſſibile erit ut immerſio vermium oleo perfici poſſit: Ab experimentis illuſtr. *Torti* ſatis evidenter apparet, *vermes teretes* in oleo communi per plures horas commode vixiſſe.

Broughton, Diſſ. Inaug. de Vermibus inteſtinorum.

ſervations on the indiſcriminate uſe of mercury, as a vermifuge, in the *Weſt India iſlands.*

Mercury, unleſs very cautiouſly given, and in very ſmall quantities, is rank poiſon to the conſtitution of a negro. The many fatal effects I have ſeen, in the courſe of ſeveral years practice in the iſland of Jamaica, convince me of the truth of what I have here aſſerted.

Such practitioners, therefore, (and I have known ſuch,) who indiſcriminately adminiſter mercurial preparations to the negroes entruſted to their care, conſult neither their own reputation, nor the intereſt of their employers, whoſe number of ſlaves is too often leſſened, and many uſeful, healthy negroes deſtroyed, by the too frequent, and raſh exhibition, of that excellent, but dangerous mineral. Nor are its pernicious effects confined to the Blacks. White people often feel the ill conſequences of an indiſcreet uſe of it. Mercury is to be uſed with much leſs freedom in warm, than in cold climates—and the ſame quantity, which ſhall not produce any ſenſible effect in Europe, will in the ſame conſtitution, within the torrid zone, operate in a powerful manner.*

The blood of ſuch negroes, as work hard in hot climates—take but little reſt, and live moſtly upon a vegetable diet, will, even in a healthy ſtate, be found much thinner, and leſs diſpoſed to coagulate, than that of white people. Mercurial medicines, therefore, are hurtful, by breaking down and deſtroying the texture of the blood, already too much diſſolved, by heat, and the nature of their proviſions.

* The yellow fever affords an exception to this rule. It is aſtoniſhing how much mercury may be taken by patients labouring under this dreadful diſeaſe, without exciting ptyaliſm. Ten grains of calomel every ſix hours, continued for ſeveral days, is no uncommon practice; and this bold exhibition of it, according to the beſt accounts I can learn, has been attended with the happieſt effects.

In Jamaica, it is too common a cuſtom to ſend a negro, that receives the ſlighteſt ſcratch, or has the leaſt ſore on the leg, or foot, to the hot-houſe*, where the poor wretch is immediately

* Upon plantations in the Weſt Indies, the apartment appropriated for the uſe of the ſick and lame negroes belonging to each reſpective plantation, is called, in Jamaica, the *hot-houſe*; in the other iſlands, with more propriety, the *ſick-houſe*. I cannot ſay I ever ſaw above *ten* well-contrived ſick-houſes in my life. *One* of the beſt that ever I ſaw, and what may well be conſidered as a pattern for others, is at Water Valley, in St. Mary's (the north ſide of the iſland of Jamaica) the eſtate of Doctor James Naſmyth, a gentleman to whom I am much obliged for many curious particulars relative to the medical properties of many of the Jamaica plants.

This improper, and abſurd appellation, *hot-houſe*, has been productive of more miſchief, than many proprietors are aware of.

A houſe for the ſick ought to be as cool, airy, and clean, in thoſe hot climates as poſſible; but inſtead of this, the managers, or overſeers, to whom the building of the hot houſe, as well as every other office belonging to a ſet of works, is too often entruſted, ſeem unwilling, that ſuch a building ſhould have its name for nothing; and therefore take care that it ſhall be *literally a* HOT *houſe*, by building it cloſer, and with fewer windows, than any other houſe on the eſtate. Nay, I have actually ſeen hot-houſes without any other aperture for the admiſſion of air or light, than the door! Architects who build after ſuch a faſhion as this, muſt have taken their ideas from the black-hole at Calcutta. What muſt the poor wretches ſuffer, who are locked up at nights, ſometimes as many crammed together as the place will hold, in ſuch infernal dungeons, under the notion of "*getting them well*" of their different complaints!

And theſe abſurdities will ever triumph over common ſenſe, ſo long as overſeers are permitted to be architects, whether they know any thing of the matter, or not.

It is not to be denied, that among overſeers, are to be found many men of genius, men of liberal education, and, in every reſpect, unexceptionable. But I am ſorry to ſay, that far the greater number are ſtrangely deficient in points wherein they think themſelves amply informed. Indeed, in points wherein, it is abſolutely neceſſary, they *ought* to be well informed.

I have known many people, who, though they had not a ſingle idea abſtracted from making the moſt of a ſugar cane, ſet up, on being made overſeers, for men

confined to the ſtocks, that the ſore may not be enlarged by walking about; and there doſed, twice a day, with a ſolution of corroſive ſublimate in rum, adminiſtered in a cup of the decoction of ſarſaparilla, or lignum guaiacum. In a good habit the confinement, and keeping the wound clean, will effect a cure; but though in more obſtinate caſes, alteratives *may* be, and certainly *are*, neceſſary; yet, the indiſcriminate exhibition of Van Swieten's ſolution, as they call it, to every negro that has a little ſore on his leg, does more harm than good. I have known many good conſtitutions much injured by its uſe, and dropſies brought on by thoſe medicines that were intended at firſt to cure a ſore leg.

In like manner, mercury adminiſtered with intent to kill worms has often brought on a worſe diſeaſe; rheumatiſm, bone-ach, from taking cold; conſumption, aſthma; confirmed aſcites; have but too often followed the injudicious uſe of that mineral.

If mercury be given at all for the expulſion of worms, the ſafeſt way of adminiſtering it has always appeared to me to be in ſmall doſes of Dimſdale's powder.* But even this is not always effectual. And it is very extraordinary, that where *nature* has pointed out and ſupplied us with the nobleſt and ſafeſt anthelmintics, the preparations of *art* ſhould be ſubſtituted, and

of univerſal knowledge. A man of this ſtamp, as ſoon as he enters upon his office, becomes in a moment, like the Pope, *infallible*. He not only decides with authority upon all queſtions relative to the buſineſs of *planterſhip* and *ſugar-making*, but as if by inſpiration, he commences architect, ſurveyor, doctor, grazier, diſtiller, and politician; cum multis aliis; and it moſt commonly happens, that he who would ſeem to know every thing, and be a proper judge of every thing, knows, in fact, nothing at all.

* Calomel & Pulv. e. chel. Cancror. comp. āā gr. iij. Antimon. Tartarizat. gr. $\frac{1}{6}$, vel $\frac{1}{10}$.

preferred, though inferior in virtue, and more hazardous in their conſequences.

Few or none of the European medicines are equal in efficacy to thoſe vermifuges which the Eaſt and Weſt Indies ſupply us with.

The *worm-graſs* is highly commended by many, and is allowed a place among the firſt anthelmintics, by thoſe who have been accuſtomed to give it. Its uſe principally obtains among the free black and Mulatto women of Jamaica, who make a livelihood by practiſing phyſic among thoſe of their own colour, with the medicinal herbs which nature ſo abundantly beſtows in that climate.

It is the *anthelmia* of Dr. Browne, and the *ſpigelia* of Linnæus.

The preparations of it are an infuſion, decoction, and the clarified juice.

Dr. Browne, who, in his *Natural Hiſtory of Jamaica*, gives us the beſt methods of preparing it, ſpeaks very highly in its praiſe. Thoſe, to whom it is adminiſtered, are firſt affected, as if with a degree of intoxication. It then procures ſleep almoſt as certainly, and in the ſame degree as opium; and the patients eyes, after the ſleep is over, appear ſparkling and diſtended. However, the exhibition of it is not unattended with danger; if the doſe be too little it will do no good, and exceſs in the doſe, I have known productive of diſagreeable effects.

The *aſclepias*,* which is the *apocynum* erectum, folio oblongo, &c. of Sloane; from its emetic quality, called baſtard, or wild

* Aſclepias erecta, foliis anguſtis acuminatis, verticilliter ternatis floribus umbellatis. BROWNE.

ipecacuanha, and by the negroes, red-head, is a powerful vermifuge.

The uſual way of adminiſtering it, is either in a decoction, or the expreſſed juice of the leaves. Of the former, half a pint is the uſual doſe to an adult, when intended as an emetic. In the latter form, from a tea-ſpoonful to three table-ſpoonfuls may be given as an emetic, according to the age, conſtitution, and ſtrength of the patient. The expreſſed juice may alſo be made into a ſyrup with ſugar.—I have known it to bring away worms (after operating as an emetic) from patients in whom there never appeared any ſymptoms of them. If there are any in the ſtomach, it certainly diſlodges them. When the crude juice is to be adminiſtered, I would recommend an addition of an equal or a double portion of lukewarm water with it, which makes it operate more gently, and likewiſe more effectually.

Browne ſays, the juice is a powerful aſtringent. I cannot ſay I ever knew an inſtance of its being aſtringent, and therefore imagine he muſt have taken his account, not from his own experience, but the report of others.

The bark of the *Baſtard Cabbage-Tree (Geoffrea Inermis)*, ſtands among the firſt, in the liſt of powerful vermifuges.

It is the bark of a tree, very frequently to be met with in the mountainous parts of Jamaica, which grows to a conſiderable height. The bark is of an aſh colour, ſometimes ſpotted with reddiſh, or iron coloured ſpots. The outer thin bark, or epidermis, being peeled off, the inner bark appears, when dry, of a ruſty iron colour, and its *interior* ſurface of a cineritious hue. Altogether, when ſtripped off the tree, and kept for uſe, it is not unlike the eleutheria, or caſcarilla bark. The wood of the baſtard cabbage-tree is exceedingly hard and durable, and much uſed for the purpoſes of building, where

ſtrength and ſtability are required. The leaves are oblong, oval, ſmooth, and of a beautiful green colour, diſpoſed in a pinnate form along the ſtem.*

Of this tree, there are ſaid to be two ſorts, the male and the female. The bark of that only which is called the FEMALE *Baſtard Cabbage-tree*, is applied to the purpoſes of medicine. This latter, in the months of April, May, June, and July, appears moſt beautifully adorned with very large ſpikes of papilionaceous bloſſoms, of a purple colour, which are ſucceeded by a fruit, of the ſhape, ſize, and appearance of a green walnut; being a drupa, containing one oval kernel, incloſed in a hard, ſmooth, thin ſhell.†

* Since the publication of the former editions of this work, Doctor Woodville's MEDICAL BOTANY has made its appearance in the world, in which a much better account of the Geoffræa inermis is given, than is to be found in any other author. *See his Medical Botany*, Vol. II. page 306.

† Dr. Browne has given a very imperfect account of this tree, in his Natural Hiſtory of Jamaica. He has not deſcribed it in its proper place, but refers it to his appendix, which treats only "*of thoſe vegetables whoſe characters are not ſufficiently known.*" Why he ſhould call it a *ſpigelia*, I cannot conceive, unleſs it was becauſe he was fond of altering Linnæus's names, and as he had choſen to give Linnæus's *Spigelia, the worm-graſs*, his new name of *Anthelmia*, or, as one of his editions has it, "*Anthelmenthia*,") he thought proper to transfer the name of Spigelia to this tree, which has not the leaſt reſemblance of a Spigelia.

He ſeems totally ignorant to what claſs and order it belongs, as alſo of the characters of the flower, which he leaves undeſcribed. I have endeavoured to ſupply his deficiencies, by adding that part of the underwritten deſcription which is printed in *italics*; and which, though not ſtrictly conformable to the rules of Botany, may nevertheleſs be found ſufficient to convey an idea of the flower.

SPIGELIA foliis oblongis nitidis pinnatis, cortice glabro cinereo.

Flores in aliis maſculini, in aliis fœminini dicuntur.

Mas deſideratur.

The moſt uſual way of exhibiting this bark, is in decoction. About an ounce, or an ounce and a half, groſsly powdered, may be boiled in a quart of water, until it is reduced to half a pint. By this time, the decoction becomes very high coloured, like old Madeira wine, or porter; but if it ſhould not then attain that colour, (which is generally looked on as the criterion of its being properly prepared) the boiling muſt be continued longer; for in a ſtrong decoction only the efficacy lies.

The taſte of this decoction is not unpalatable, nor is it from any bitterneſs that the bark derives its efficacy, as ſome have imagined; but from a ſpecific quality, powerfully noxious to all kinds of worms bred in the human body.

The doſe to children, is from a table-ſpoonful, to a ſmall wine-glaſsful. Adults of a ſtrong conſtitution may venture on a large wine-glaſsful. Of this decoction, a doſe proportionable to the age and conſtitution of the patient is to be given, either ſimply or ſweetened with honey, ſugar, or molaſſes, for three or four mornings ſucceſſively.

FOEM. Perianthium? *Monophyllum, campanulatum, quinque-crenatum, purpuraſcens.*

Corolla? *Papilionacea: Vexillum amplum, cordato-ovatum; Alæ oblongæ: Carina bipetala.*

Stamina? *DIADELPHIA: Filamenta decem, quorum, novem infernè connata, ſupernè, libera ſunt. Decimum vero ſimplex, à cæteris ſejunctum exſtat. Antheræ minimæ oblongæ.*

Piſtillum. GERMEN ovatum. STYLUS brevis attenuatus, *aduncus, ſubulatus.* STIGMA acutum.

Pericarpium. DRUPA carnoſa, firma, ovata, lineâ longitudinali lateraliter notata, unilocularis, monoſpermis.

Semen. NUCLEUS bilobus, ovatus, membranâ tenui obvolutus, & nauco ligneo glabro, lineâ longitudinali lateraliter notato, tectus.

A doſe of ſome medicine of the purgative kind ſhould be then interpoſed—ſuch as jalap—rhubarb—ſal. glaub. or what is ſtill better, as more immediately anſwering the intention, an ounce of oleum ricini.

Beſides the decoction, this bark has been found efficacious, when taken in ſubſtance, finely powdered. From five grains to a ſcruple, may with ſafety be ventured on, and even farther: combined with jalap, it operates with greater certainty of ſucceſs than when exhibited by itſelf.

Some years ago, the ſmall-pox happening to make its appearance in that part of the iſland of Jamaica where I reſided, it was thought expedient on that occaſion to make preparations for inoculating all perſons both white and black, that had not had this diſorder.

Thoſe white people, whom I attended, and the negroes belonging to the different eſtates and ſettlements which I had the care of, were forthwith put under a preparatory regimen.

The antiphlogiſtic method, recommended by baron Dimſdale, as being the moſt applicable to the climate; (as well as the moſt rational, in *any* climate) is of courſe the moſt univerſally adopted in that part of the world.

The mercurial preparation, given over night, I did not ſtrictly adhere to. To the ſtrongeſt negroes, the quantity of calomel given for a ſingle doſe, never exceeded three grains. To ſome, I judged it altogether improper to give any.

But as the very ſmall annual ſum allowed to ſurgeons, for the care of negroes in the country parts, will not admit of the exhibition of very expenſive medicines, I was reduced to the

neceſſity of ſetting my invention to work, to find out a cheap purgative, that ſhould at the ſame time be ſafe and efficacious.

The four-o'clock-flower (Mirabilis Jalappa) grew in great plenty about the place. This is the jalapium officinale; and the roots of this, ſliced and dried, were not to be diſtinguiſhed from the common jalap of the ſhops.

But whether from the difference of the climate, or ſoil, the Jamaica jalap has not the ſame effect as that which is brought to us from South America, I was obliged to give it in double quantity; and even then it did not always take effect. The largeneſs of the doſe rendered it diſguſting.

At laſt, I determined to try who far the cabbage-bark, combined with a ſmall quantity of the true jalap, might aſſiſt its operation; or rather, what effects might be the reſult of ſuch a combination. I gave ten grains of jalap only, with ten grains of the bark, in water, to an adult, of a robuſt conſtitution. It ſucceeded beyond my expectation as a purgative. I made a few more trials with equal ſucceſs.

After this, I prepared a large quantity of equal parts of jalap and cabbage-tree-bark, as a common purging powder for negroes of all denominations, which I found to anſwer very well in doſes of half a drachm; and in ſome few caſes wherein it did not operate ſo well, two or three grains of gamboge, thrown in, to quicken its operation, produced the deſired effect.

This experiment convinced me of two facts. Firſt, the univerſality of the complaint of worms among negroes; for, of *two hundred and fifty-four* negroes, whom I had then under preparation, *two hundred and ſixteen* took the cabbage-bark; of whom, *one hundred and ninety-three* paſſed worms, after taking

the powder two or three times. Among theſe, I do not reckon ſeveral new negroes, and others that I could expect no exact account from. The remaining number, to whom I *did not* give the bark, were either ſuch as from their conſtitution required other treatment, or elſe belonged to perſons who ſupplied their own medicines.

From that time I conſtantly adhered to the uſe of the cabbage-bark, and in the ſubſequent courſe of my practice, made the decoction of that bark the common vehicle for all medicines of the aperient kind, ſuch as jalap, pulv. rhei, magneſia, &c. both to white patients and negroes, whenever particular circumſtances did not forbid it; nor did I ever perceive any bad conſequences ariſe from ſo indiſcriminate a uſe of this medicine.

I was now deſirous of examining how far a ſpirituous tincture of it might be of uſe; and infuſed four ounces of the bark, groſſly powdered, in two pints of rum, which I digeſted in the heat of the ſun for ſix days. Of this tincture I gave a ſmall wine-glaſsful, inſtead of a common dram, for five or ſix mornings running, by way of gratuity, to two or three luſty fellows that I knew to be ſubject to worms; but though they liked the dram, and came regularly for it, I never could find whether it had the deſired effect.

I drew a very ſmall quantity of extract from a pound of the groſs powder boiled in a gallon of water. This I gave in the quantity of a grain; then two grains, and by degrees as far as five, to three ſubjects I had choſen; but I found no remarkable effects from it, prepared in this manner. One of thoſe who took it was ſeized with a violent ſickneſs at the ſtomach, but whether it aroſe from the effects of the extract, or from ſome other cauſe, I had not leiſure to examine.

However, as I had already two very good and ſimple preparations; the *decoction*, and *powder*, I deſiſted from all farther inquiries into the virtues of the more operoſe preparations.

But notwithſtanding I had ſo much reaſon to be ſatisfied of the *general* efficacy of this bark, I found my hopes diſappointed in two or three very obſtinate caſes, wherein, after almoſt every other anthelmintic, both native and European, had been tried in vain, I expected to derive very conſiderable advantages from a timely exhibition of the cabbage-tree bark.

The ill ſucceſs of the bark in thoſe caſes, induced me to make ſome inquiry concerning a medicine which I had heard of, as being ſucceſsfully given, in many parts, to all patients afflicted with complaints ariſing, or ſuppoſed to ariſe, from worms: and that, not only by regular practitioners, but even by ignorant negroes, at random, and without any juſt proportion inthe doſe.

This was the STIZOLOBIUM, or COWHAGE.

Satisfied, as I ſaid before, of the general efficacy of the cabbage-tree-bark, I had never given myſelf the trouble to make inquiry about any other more powerful vermifuge; nor did I think that there *could* be one more powerful, until the death of a negro girl, evidently occaſioned, as appeared upon my opening her, from vaſt numbers of worms lodged in the ſmall inteſtines, convinced me that I had not done my duty, and excited me to puſh my inquiries in ſearch of a more efficacious medicine ſtill farther.

I had heard ſo much of the *cowhage*, or *cowitch*, that I reſolved to make trial of it.

The ſubſtance which is known by this name, is the rigid, hairy coat, ſomewhat in appearance ſimilar to the pile of velvet, or rather pluſh, of a reddiſh brown colour, which grows on, or clothes the ſurface of a pod, in appearance like the pod of our Engliſh ſcarlet bean, to which plant indeed, the whole of the Cowhage-vine, both in its foliage, and manner of growth, bears a very near reſemblance. This hair, or pile, ſcraped off and mixed in ſome viſcid vehicle, is the part to be employed. The reſt of the plant is uſeleſs.

But the different modes of exhibiting the cowhage, were as various as the perſons who took upon them that office. One adminiſtered it in molaſſes. Caſtor oil was the favourite vehicle of a ſecond: and a third inſiſted, that it was of no ſervice unleſs mixed with honey.

The greater number agreed in giving molaſſes the preference; but there was even among theſe, a conſiderable diſagreement with regard to the proportions to be obſerved in the mixture. While ſome cautiouſly put but two pods of the cowhage into a quart of molaſſes, others boldly ſtirred up two dozen in a like quantity. Some again would have ſix pods to be ſufficient; and others imagined that ſome ſecret virtue, or charm, was to be expected, from having the number neither greater, nor leſs, than exactly *nine*.

By ſome, the ſetæ contained on the outſide of a ſingle pod, mixed with one or two table-ſpoonfuls of ſyrup, honey, or molaſſes, was given for a ſingle doſe, without diſtinction, to young and old. By others, a quantity of each ingredient was mixed together, without bearing any exact proportion to each other, farther than was merely ſufficient to bring the compoſition to the conſiſtence of an electuary; and one, two, or three tea-ſpoonfuls given as a doſe to children, and one, and ſometimes two table-ſpoonfuls to adults.

As far as I could learn, however different the compoſitions and proportions of the ingredients, the effects were found to be pretty much the ſame in all ages, ſexes, and conſtitutions.

I conſidered that the wonderful efficacy ſo generally attributed to the cowhage, could not be ſuppoſed to ariſe from any ſpecific medicinal quality reſiding in it, ſo much as from the ſharpneſs and elaſticity of the ſetæ, with which the pods are covered, which take the ſame effect on worms, as they do when applied to our ſkin. The ſetæ piercing, vellicating, and tormenting them in ſuch a manner, as obliges them to let go their hold; acting like ſo many needles, as may be plainly demonſtrated by viewing the ſetæ through a microſcope; which ſhews them to be a number of long ſpiculæ, needle-ſhaped, hollow, tranſparent, and armed with points, exquiſitely ſharp and fine.

The idea that their action is merely mechanical, is ſupported by the obſervations of ſeveral very judicious inquirers, who have made trial of the cowhage, who all agree in the opinion that it acts in the ſame manner as hair, cut fine, and given with the ſame intention; but much more effectually, becauſe of its inflexibility, and the exquiſite, and almoſt inconceivable ſharpneſs of its points.

Curious to know how far the application of the ſetæ to the external coats of worms bred in the human body would affect thoſe animals when expelled from the body, I waited not long before I had an opportunity of making the experiment.

A calabaſh full of very large ones, of the *teres* kind, in full vigour, voided by a poor emaciated patient, was brought to me. Among theſe, I ſprinkled ſome of the ſetæ. For a minute or two, no viſible effect was produced; but in a little time they began to writhe and twiſt themſelves in an unuſual manner, and exhibited evident ſigns of extreme torture. I took one of the worms

and viewing it through a magnifying glaſs, perceived that ſeveral of the ſetæ had pierced very deep, and, others were ſticking looſely in various parts of its body, but that none of the ſpiculæ, which had once entered into the ſkin, dropped off.

Convinced in a ſhort time, both from what I had heard, and from my own experiments on the internal exhibition of cowitch, of the ſafety and efficacy of this incomparable medicine, I laid aſide the cabbage-tree-bark, and for ſeveral years have uſed no other vermifuge than this.

My uſual way of preparing and adminiſtering the cowhage, is in the form of an electuary, with honey, molaſſes, or ſyrup of a thick conſiſtence. Formerly I was not in the habit of obſerving any exact proportion of the quantity of the ſetæ; but as ſince the publication of the former editions of this treatiſe, the demand for it has increaſed beyond my expectations, I have found it neceſſary to adopt certain formulæ for aſcertaining the proportions; which proportions, although I find them in general to anſwer very well, I nevertheleſs, in ſome particular caſes, find it neceſſary to vary; for there never yet exiſted any general rule, to which ſome exception or exceptions could not be found. After repeated trials and experiments, in the courſe of five and twenty years, (during which period I have been in the conſtant habit of exhibiting the cowhage as an anthelmintic,) made with a view of finding out the beſt vehicle for this ſubſtance, I cannot ſay that I have found any leſs exceptionable, than the good old vehicle, common treacle, ſuch as is to be had at every grocer's. I have tried conſerves, but children cannot be prevailed on ſo readily to take them. Honey would not be an incommodious vehicle, but it is not with every ſtomach honey will agree; for it is well known, that in ſome conſtitutions, violent colicky complaints are brought on by the ſmalleſt quantity of honey, or even by drinking any kind of vinous liquor in which honey enters as an ingredient: and there are theſe advantages in treacle; firſt, that every body knows what

it is: ſecondly, there are few children who do not like it: thirdly, it is not apt to be ſpoiled, or to ferment, unleſs kept in too warm a place: and laſtly, it is gently aperient, and, in that view, an auxiliary to the principal ingredient. But if from a diſlike of treacle ſome other vehicle would be preferred, raſpberry jam or currant jelly will prove very good ſubſtitutes.

At the requeſt of ſome indulgent parents, in order to *cheat* into compliance ſuch of their children as could not be prevailed on to take any thing that has the appearance of a *medicine*, I was induced to turn in my mind how to exhibit the cowhage in the form of a lozenge; and after ſome trials ſucceeded in fixing on a formula that anſwers pretty well. It conſiſts of a due proportion of things extremely ſimple: ſugar, Indian arrow-root, and gum tragacanth, but no efficient article, except the Cowhage, unleſs in ſome few inſtances of private practice, or at the deſire of the medical practitioner who attends in the family of the patient.

But, though I have had many communications of the good effects of the lozenges, I cannot ſay I place ſo much dependance on them, or recommend them in my own practice, (unleſs where I meet with refractory and ſpoiled children, that are maſters and miſtreſſes over their mamma's,) as I find the ſimple electuary, made with nothing but Cowhage and treacle, anſwer every purpoſe.

Of this electuary, a tea-ſpoonful is in general found to be a ſufficient doſe for children, from infancy to the age of ſix or eight; from thence to fourteen, a deſſert-ſpoonful is found to anſwer well, and for all above that age, a table-ſpoonful. Formerly I thought it might be ſufficient if taken once a day, but experience has ſhewn me, that it anſwers better when taken twice; viz. at night, going to bed, and in the morning AN HOUR BEFORE BREAKFAST; and though little or no previous medi-

cine is neceſſary, yet it is *generally* found to operate more effectually, where a *gentle emetic* (provided nothing forbids it) has been premiſed.

The cowhage, after being begun upon, is to be continued for three or four days; after which ſome briſk purgative, ſuch as jalap, or infuſion of ſenna, or in ſhort, whatever purging medicine is known to agree beſt with the patient, is to be taken; which will in general bring away the worms, if there be any. Afterwards the cowhage is to be continued as long as there may ſeem occaſion; repeating the purgative at intervals of three or four days.

For the tape-worm, long experience has taught me, that the cowhage does not prove ſo effectual as againſt the other worms, unleſs the quantity of ſetæ be doubled. In very obſtinate caſes, I ſometimes find it neceſſary to increaſe the quantity of ſetæ even to a threefold proportion; for they will not eaſily be made to let go their hold, which they are as tenacious of, as they are of life. Profeſſor Pallas* poiſoned a dog with the *ſemina ſtaphidis-agriæ*, and on opening him after he had been dead for ſome hours, found, together with the poiſonous ſeeds, ſeveral living lumbrici and ſmall tape-worms.

Every one that knows what cowhage, or cowitch, is, muſt be ſenſible, that if the leaſt particle of it comes in contact with the ſkin, it cauſes a moſt intolerable itching, and ſometimes, in very delicate ſkins, no ſmall degree of inflammation, where it fixes. A ſingle briſtle of it, ſo ſmall as to be inviſible to the naked eye, is ſufficient to cauſe this inconvenience for a time, but it ſoon goes off. Microſcopic obſervations ſhew us, that the ſetæ are hollow, and conical, gradually leſſening from the

* *Pallas, Diſſ. Inauguralis de infeſtis viventibus intra viventia.*

baſe, until they terminate in the fineſt point that can poſſibly be imagined.

Here, then, the queſtion may very naturally be aſked, "If theſe finely pointed ſpiculæ, when applied externally to any part of the ſurface of the ſkin, occaſion ſuch tormenting and intolerable itching, ſometimes almoſt even to madneſs, may there not be danger of injury to the coats of the ſtomach and inteſtines from ſo many ſharp ſwords, as it were, received into the alimentary canal?" To this I anſwer, not the ſmalleſt degree of danger is to be apprehended. The many thouſands, who have taken it without any ill effect, ſhew its perfect ſafety. If a little honey, or treacle, be found ſufficient to defend the tender nervous papillæ of the lips, fauces, and œſophagus from the troubleſome effects of the ſetæ, certainly the mucus of the ſtomach and inteſtines, which is the guard provided by nature to protect the villous coat of theſe viſcera from injury, will be very ſufficient to defend thoſe parts from the irritation of the ſetæ. A daughter of my own, when about five years old, contrived to lay hold of a gally-pot that contained between three and four ounces of the common preparation of it; and, ſecreting herſelf in a corner, made one meal of what was intended to laſt her for three or four days, but without any other inconvenience than a ſmart diarrhœa, which did her more good than harm.

I can with truth aver, that I have never yet met with, in my own practice, any ill effects reſulting even from the moſt liberal uſe of the cowhage in any form; and, although I have, both publicly in print, and in every other way, for theſe twenty years paſt, ſet forth, that "if any diſagreeable ſymptoms, or any inconvenience whatever, cauſed or ſuppoſed to be cauſed, from the uſe of it, ſhould ever be noticed by thoſe who take or adminiſter this vermifuge, I ſhould conſider the communica-

tion thereof, by letter, ſtating circumſtantially the effects or inconveniencies complained of, as a very particular favour," I have never received, in all that time, more than two communications to that purpoſe; the one from the huſband of a Weſt-India lady at Bath, who ſtated, that he thought it had done his wife more harm than good, but did not enter into particulars; the other was verbally communicated by Dr. Hooper, who related to me that he not long ago gave ſome cowhage to a patient, in the Mary-le-bon Infirmary, whom he ſuſpected to have worms; that after taking it once, ſymptoms of enteritis appeared; which induced the doctor to diſcontinue it, but at the ſame time, Dr. Hooper very candidly added, that it is poſſible the man might have had enteritis, even if he had never taken any cowhage.

After all that has been ſaid reſpecting the ſafety of cowhage, nevertheleſs, however inoffenſive in general it may be, reaſon will dictate to us, that where the mucus of the ſtomach and inteſtines is abraded, or leſſened, from dyſentery, cholera-morbus, or any other cauſe whatſoever; or where there is a tendency towards inflammation in any part of the inteſtinal canal, the exhibition of this medicine cannot be unattended with danger.

I ſhall not go ſo far as to ſay, in praiſe of this my favourite medicine, that I *never* knew it to fail; but I will ſay, that I have experienced more certain good effects, and fewer ill conſequences, than from any other medicine, given with the ſame intention; inſomuch, that I have, ſince I firſt began to exhibit the cowhage, had no occaſion to look for any other vermifuge.

In the choice of cowhage, care ſhould be taken to have it good. That which is muſty, of a bad colour, and which has lain long in damp warehouſes, is to be rejected. I once was

very near bringing myſelf and the dolichos into diſgrace, by employing ſome which I had been obliged to purchaſe in London, in conſequence of a ſhip's being captured in its homeward bound paſſage from Jamaica, which had on board a conſignment of the article, coming to me. How it happened, or where the article which I bought originally came from, I do not know; it looked very well, but certainly it did not anſwer the purpoſe. On complaint being made of its inefficacy, I examined it more narrowly, and found it was deficient in that elaſticity of the ſetæ, which good cowhage ought to have; of courſe diſcontinued to uſe it.

AFTER TREATMENT.

WE are not to ſuppoſe, that after worms have been expelled from the ſyſtem, the patient is never again to be troubled with them. The ſame cauſes exiſting, which proved favourable to their multiplication in the firſt inſtance, will favour their regeneration. We are not therefore to ſit down, content with having got rid of our enemies for the preſent, and with them a great number of bad ſymptoms which they occaſioned, but ſo to invigorate the conſtitution as to prevent, if poſſible, their future attacks. In caſes where they have greatly debilitated the ſyſtem, much attention is required, to enable the patient to recover ſtrength. But, as no practitioner whatever can be ignorant of what is neceſſary to be done on ſuch occaſions, to enter into any long diſcuſſion, on this part of the ſubject, would be ſuperfluous.

As far as medicine is concerned, the tonic plan will be proceeded on; the Peruvian bark, quaſſia, preparations of ſteel, and though laſt, not leaſt in eſtimation, a well prepared decoction of the bark of the ſalix latifolia, or broad-leafed willow bark, recommended by Mr. G. Wilkinſon, ſurgeon, of Sunder-

land, in a late publication of his on that ſubject; and which, as far as I have made trial of it, ſeems well to merit the recommendation given of it, both by the author, and the reviewers.

To thoſe who can afford it, country air and exerciſe on horſeback; cold or ſea bathing; a due proportion of animal food; a few glaſſes of good wine after dinner; good porter, *if ſuch a thing is to be had;* in ſhort, every thing that is nutritious and ſtrengthening, will tend to fortify the ſyſtem againſt the future attacks of theſe inſidious enemies.

Native Minium.

Mr. Smithſon Tennant has announced his diſcovery of native minium in a vein of galena, in Devonſhire. A ſmall quantity of this mineral was found in the centre of a piece of cubic galena, accompanied with cryſtals of ſpar.

Monthly Magazine.

Precipitation of Copper by Tin.

Mr. Collard, of Birmingham, has found that copper may be precipitated from its ſolution in the ſulphuric acid by means of tin. The ſucceſs of the experiment depends upon the heat of the ſolution, which muſt be at or near the boiling point, when the tin is put into it. This diſcovery may lead to ſome very important reſults.

Monthly Magazine.

Syphon uſed as a Refrigerator.

The ſyphon has lately been applied to the worm tub as a refrigerator. The plan is for conveying water in any quantity to a worm-tub of the largeſt dimenſions, if perfectly air tight. The feed-pipe enters the bottom of the tub vertically, while the hot water or waſte-pipe branches out from a ſide-orifice near the top, and is ſoon turned to proceed vertically downwards, until its lower end is about two feet below the bottom of the feed-pipe; both the pipes have cocks near the lower ends. When the work is commenced, the cocks muſt be ſhut, and the tub filled through a hole at the top; when full, the hole at top muſt be ſtopped, and the cocks both opened together; the water will then commence running, and continue as the ſupply holds good; the apparatus acting entirely upon the principle of the ſyphon.

Monthly Magazine.

Rhodium and Palladium, their exiſtence proved.

Dr. Wollaſton ſome time ſince announced that he had extracted from the ore of platina two diſtinct metals, to which he had given the name of *rhodium* and *palladium*. The accuracy of his experiments was conteſted. In France, however, M. Collet Deſeotils has obtained the ſame reſults by following the ſame proceſs. The rhodium and palladium obtained by him were exhibited at a late meeting of the National Inſtitute.

Monthly Magazine.

Factitious Puzzolana.

An intereſting memoir has been lately preſented to the French National Inſtitute, by M. Dodun, on the diſcovery of a factitious Puzzolana. The author obſerves that the depoſited duſt of ancient volcanic ſubſtances, has been long uſed in Flanders, and the adjacent countries as a ſubſtitute for the Italian puzzolana, under the name of traſs, or aſhes of Tournai; and that certain lutulent eruptions of ancient volcanoes at Vivarais, had the ſame qualities as the puzzolana of Italy, and might be uſed inſtead of it. The diſcovery of a ſubſtance of the ſame kind was made by accident by M. Dodun in the neighbourhood of Caſtlenaudery in France, where there are immenſe beds of calciform fragments of iron ore, of from eight to ten feet thickneſs, following exactly the paralleliſm of the ſlightly inclined declivities. In the adjacent fields, there are many ſubſtances of the ſame nature, of violet, brown, and black colours, which reſemble lava, and which appear to have been brought to that ſtate by ſerving as hearths, or encloſures to the fires kindled in the fields by the peaſants, either for agricultural purpoſes, or perſonal convenience when they watch their flocks in winter.

The ſimilarity of theſe ſubſtances to volcanic products led M. D. to form a cement from them, by treating them in the ſame manner as puzzolana earth. The quantity of iron which theſe oxides ſeemed to contain, the abundance of their ſiliceous particles, and the alumina which entered into their compoſition; their great weight, and their non-efferveſcence with acids led him to preſume that the cement formed from them would bind under water. Numerous well-conducted and ſatisfactory experiments verified the ſolidity of his conjectures and proved that the factitious puzzolana had acquired under water a ſolidity at leaſt equal to that of Italy. In caſes where both were

uſed, and in which there could be no deception, the plaſter made with the Italian puzzolana was cracked and chapped, but that formed from the factitious kind had entirely preſerved the unity of its ſurface.

M. Dodun's ſucceſs, and the encouragement which he met with from the government of his country, excited him to farther reſearches into the principles of cement. He tried the calcination of various ſchiſts, of the bituminous, ferruginous, and argillaceous ſorts; but theſe contained too ſmall a portion of iron, for he avers that the puzzolanas owe their property of hardening in water ſolely to the ferruginous particles which they contain, and that the puzzolana which forms a body in the water is not fit to be employed in the open air, where it cracks and chaps in all directions. On the other hand, that which is proper for the air, and which acquires and preſerves its tenacity in it, ſets but imperfectly in water. Theſe are diſtinguiſhed by their colour as well as by the peculiarity of their properties. The puzzolana proper for works under water, is of a reddiſh brown; that which is fit for works expoſed to the air, is a dark violet. The latter is uſed for terraces, the embankment of baſins, for the compoſition of encloſures, or light roofs. It adheres ſo ſtrongly to glazed tiles, as not to be detached from them without breaking the tiles. The puzzolana uſed under water forms a moſt ſolid body. Three months after immerſion it is an actual ſtone, capable of receiving a poliſh. The lime in it is always converted into carbonate of lime in ten weeks.

M. D. next proceeds to deſcribe the exterior characters of the quartziferous oxides of iron, which form the baſis of his factitious puzzolana. Their colour is of a reddiſh-brown before calcination, or ſlightly violet. A light torrification gives them a clearer red tint, or a deep violet; one more intenſe renders them of a deep brown inclining to black. Urged by a

longer continued heat, the colour acquires a deep black, then the ſubſtance becomes porous entirely ſimilar to certain lavas of modern and ancient volcanoes. Their fracture is grained, and a little earthy, and ſmall chryſtals of quartz may be diſtinguiſhed in them by the naked eye, and almoſt always angular fragments of grey or milky quartz :—their ſmell is ſtrongly argillaceous on breathing on them. There is no fire produced by the uſe of the ſteel, when it does not ſtrike a quartzoſe particle. They do not effervesce with acids either hot or cold. The magnet acts a little on theſe oxides before calcination, and ſtrongly, or perceptibly after it. The weight is about 125, while that of the Italian puzzolana is but 91.

Theſe oxides contain

50 parts of ſilex.
31 —— of iron.
16 —— of alumina.
3 —— of manganeſe and loſs.

100

The puzzolana of Italy contains

50 parts of ſilex.
25 —— of alumina.
16 —— of iron.
3 —— of lime.
6 —— of loſs.

100

Their reſpective properties may be appreciated according to the proportions of their integrant parts. The exceſs of alumina cauſes the plaſter made from the Italian puzzolana to crack

and chap in the open air: This fault ariſes from their great oxidation.

M. D. endeavoured to obtain a regulus from theſe oxides of iron by uſing violent heat. He followed the proceſs of Kirwan for the fuſion of ſiliceous and argillaceous ores of iron; yet he never obtained a ſingle metallic button; and only found at the bottom of the crucible a vitrified maſs of an opaque black, or a ſcoria in the ſtate of crude caſt iron. He then attempted to obtain a malleable button by uſing theblow-pipe, taking borax for the flux and ſupporting the oxide on charcoal, but could only procure a ſpongy ingot reſembling crude caſt iron. But being placed on a ſupport of glaſs, the oxide fuſed at the ſecond attempt, the ſupport was coloured green, and ſmall grains of iron were ſeen to paſs firſt of a dark green colour, then of a bright green, and afterwards to diſappear in evaporating. There remained on the globule only a ſlight tinge of blackiſh green.

As a general reſult M. Dodun infers that this oxide is entirely deprived of its metallic principle, and that its ſuper-oxigenation renders it reducible and refractory. He ſuppoſes that the arts may draw advantages from theſe oxides by uſing them as pigments.

It ſhould ſeem that this diſcovery may be of uſe in this country as there are in many parts of it large maſſes of iron ſtone, ſome of which are found in the vicinity of moſt coal mines. It has been long known that iron ochres have the ſame property of forming puzzolana with lime when properly roaſted; and a patent has been obtained for the application of iron pyrites to the ſame purpoſe. But the novelty of M. Dodun's diſcovery is, that poor iron ſtone is equally fit for this purpoſe, as the other ſubſtances mentioned, which is of more importance as it is very plentiful, and may often be procured in ſituations

where the others cannot. Baſalt treated in the ſame manner has the ſame property as the puzzolana: the whinſtone, of which the ovoidal paving-ſtones moſtly conſiſt, is of this kind, and is found in great abundance here.

Monthly Magazine.

On the Hatching of Eggs. By the Royal Society of Sciences of Copenhagen.

The claſs of Natural Philoſophy had propoſed the following queſtion: "Is oxygen gas, or any other gas containing oxygen, abſolutely neceſſary for the hatching of eggs? Is it poſſible that eggs can be hatched in irreſpirable gaſes, and in this caſe in what mephitic gas?"

The ſociety received an anſwer, written in French, with the motto, *Num veſcitur aurâ æthereâ?* The unknown author clearly deſcribes the preparations and means which he employs for this purpoſe. The reſult of his experiments is, that eggs may be hatched in irreſpirable gaſes. This reſult being contrary to the received opinions on the animal economy, the Royal Society therefore reſolved to direct every thing requiſite for this object to be prepared, and the experiments to be repeated by Meſſrs. Von Hauch, Wiborg, Herſcoldt, Rahn, Scheele and Bügge. Theſe gentlemen accordingly repeated the experiments in the different irreſpirable gaſes, conformably to the method of the author, and found a very diſtinct organization in the eggs; they perceived the ramifications of the veins and of the arteries, the pulſations of the heart, and in ſome eggs the members already formed, according as the eggs had been a longer or a ſhorter time in the machine. The experiments were ſeveral times tried with the ſame ſucceſs; but they took the precaution to examine the ſtate of the air in the recipients under which the operation took place. By means of the eudiometer

and other teſts, they were convinced, that, during the hatching, the irreſpirable gaſes under all the recipients had loſt their mephitic quality, and had become more or leſs reſpirable.

The reaſon of this ſingular phenomenon was found in the plaſter which the author employs to cloſe his recipients. The atmoſpheric air, and alſo a portion of oxygen gas, penetrated the pores of the plaſter, and ſucceſſively found their way into the recipients. This negative experiment demonſtrates that the author has not hatched his eggs in irreſpirable gaſes as he pretends.

The commiſſioners thought it would be intereſting to reply to the queſtion by deciſive and poſitive experiments. They procured a good cement or maſtic. They aſcertained by preliminary experiments that there was no paſſage for the air at the temperature requiſite for the hatching of eggs. The recipients were filled with atmoſpheric air, with oxygen gas, azotic gas, hydrogen gas, &c. All theſe recipients with the eggs were placed in a hatching machine. At the expiration of the neceſſary time, the gas in each recipient was examined with the utmoſt care, and it was found that the gas was of the ſame quality, that is, atmoſpheric gas, oxygen gas, azotic gas, hydrogen gas, &c. as previous to the beginning of the experiments. On opening the eggs the moſt diſtinct organization was obſerved in the eggs, under all the recipients filled with atmoſpheric air, or oxygen gas, but in all the recipients filled with irreſpirable and mephitic gaſes, the yolk had more conſiſtence, a different colour and taſte from what it has in its natural ſtate, and not the leaſt trace of the commencement of organization was found. Theſe experiments demonſtrate that the hatching of eggs cannot take place in irreſpirable gaſes, and conſequently the Royal Society could not crown the memoir, whatever eſteem it may have for the talents and the knowledge of the author.

Monthly Magazine.

Horſe-ſhoe found in the middle of a Tree.

As two ſawyers, in the boat-building yard of Mr. Maſterman, on the South ſhore, Newcaſtle, (Eng.) were lately ſawing a well-grown elm-tree, they were ſuddenly ſtopped in the middle of their work by a harder body than the wood, which on further examination, proved to be a horſe-ſhoe, in good preſervation, and which, there is no reaſon to doubt, had been there ſince the growth of the timber. It was found in the very core of the tree, where a fine impreſſion of the ſhoe was made on the ſurrounding ſurface. No viſible injury appeared to have been ſuſtained by the timber.

Monthly Magazine.

Palmer's Proceſſes for preſerving Lime Juice, &c. From the Calcutta Gazette.

The limes come in between the latter end of October, and the middle of November, and as they arrive ſucceſſively, the juice is to be ſqueezed into gomlehs, holding about one maund and a half, and in the evening poured into large caſks or pipes, from which rum, brandy, or Madeira, has been lately taken out. But before the juice be poured out of the gomlehs into theſe caſks in which it is to be collected for purification, a red-hot iron bar, about eight inches long, four inches broad, and two inches thick, having an iron chain fixed to it by a hook, muſt be twice quenched in it, turning it equally round on all ſides.

When the caſk in which the juice is collected in this manner is nearly full, put into it for every maund or ten gallons of

juice, half a gallon of Bengal rum full-proof; and it will then ſettle and clarify itſelf by the beginning of December; when it may be drawn off for uſe, either into ſmall caſks or bottles.

The Proceſs for preſerving Limes.

The limes are in their higheſt perfection in the month of December and five hundred being put into a well-dried fifteen gallon keg, will fill about one-half. The remaining part is then to be completely filled up with lime-juice that has ſettled and clarified itſelf in the caſk as now deſcribed.

The keg being thus filled with lime juice, is to be ſlightly bunged up the firſt day, but the next day is to be completely ſecured againſt the admiſſion of air.

In about one month the kegs will be found to want about two bottles of juice, which has been ſoaked up. This deficiency is to be ſupplied by means of a ſmall tapering pointed funnel introduced by boring a hole with a gimlet an inch from the bung; which being cloſed again, the keg is then ready for ſea. But whether at ſea or on land, it will be neceſſary to fill it up again in the ſame way.

Theſe kegs muſt have eight ſtrong new hoops; and being prepared in this manner, the limes are warranted to keep twelve months and longer in high preſervation.

Great care muſt be taken that no water be put into the juice, otherwiſe it will be vapid and cloudy.

The Proceſs of making Sour-Krout.

In the month of February, when the cabbages are in high order, take thoſe of the cloſeſt texture, firm and freſh from the

earth. They are then to be cut the ſame day into ſhreds or ſlices about an inch thick, and opened a little to receive the ſalt, if the cabbages be of a very cloſe texture. Being all well ſprinkled over and rubbed with ſalt, they muſt remain in this ſtate on the ſalting table for twenty-four hours, in which interval they muſt be four or five times turned over, that the ſalt may take an equal effect upon all.

On the ſecond day the cabbage is taken from the ſalting-table, and put into a tub, or a pipe or puncheon, cut through in the middle; and being well preſſed down, the pickle, which conſiſts of one gallon of white ſalt to two gallons of water, muſt be poured upon it in a boiling ſtate, ſo as to fill up and pervade the whole; and care muſt be taken to keep the uppermoſt part well covered with it whilſt it is hot.

On the third day, when it will have ſunk about one-third in the pickling tub, the cabbage is taken out and put cold into caſks containing each about fifteen gallons, and being well preſſed down, and filled up within three inches of the top, one gallon of vinegar, and an equal quantity of lime juice, with two ounces of carraway ſeeds, four of caſſia or cinnamon, and four of allſpice, is poured cold into each caſk. The caſk is then filled up completely with ſome of the cold pickle taken from the pickling-tub; after which the bung is put in looſely for a day, and then finally ſecured againſt the admiſſion of air.

If it ſhould be neceſſary to fill up the ullage after two or three months, it muſt be done with cold pickle.

Monthly Magazine.

The following Extracts from "Turnbull's Naval Surgeon," although they may not be accounted particularly uſeful at preſent, are introduced with a View to the future advantage of the American Navy. E.

"*Office for ſick and wounded ſeamen, the 28th January*, 1805.

"*Particulars of ſuch part of his Majeſty's order in council of the 23d January*, 1805, *for improving the ſituation of the Medical Officers of the Navy, as relate to ſuch Officers ſerving on board Ships.*

It is ordered, that the number of aſſiſtants heretofore called "Surgeon's Mates," to be allowed to the ſurgeons of his Majeſty's ſhips, ſhall in future be regulated as follows:

Firſt rate	3	Aſſiſtants
Second rate	3	ditto
Third rate	2	ditto
Fourth rate	2	ditto
Hoſpital ſhips	3	ditto
And all other ſhips entitled according to the exiſting regulation to bear mates	1	ditto

That no perſon ſhall, in future, be appointed to ſerve as an aſſiſtant to the ſurgeon of any of his majeſty's ſhips, who ſhall not have been found qualified on examination to ſerve as ſurgeon, or as firſt aſſiſtant: that the pay of aſſiſtants ſo qualified ſhall be 6*s*. 6*d*. a-day, beſides the ſhip's proviſions; with half-pay when reduced, at the rate of 2*s*. per day, provided they ſhall then have ſerved two years ſubſequent to the date of this regulation; and 3*s*. per day, if they ſhall have ſerved three years from that date. That ſuch aſſiſtants ſhall be required to fur-

niſh themſelves with ſuch ſurgical inſtruments* as the commiſſioners for ſick and wounded ſeamen ſhall direct; and that they ſhall be rated on the ſhip's books, where the complement admits of more than one, according to their ſeniority on the liſt to be kept by the Sick and Wounded Board.

Whereas there are many ſurgeon's mates now ſerving on board his majeſty's ſhips, who have not obtained, and who may not for ſome time have an opportunity of obtaining the qualification before required, it is directed that ſuch as ſerve as firſt or ſecond mates or aſſiſtants, ſhall be allowed 5*s*. per day, and thoſe rated third mates, or aſſiſtants, 4*s*. per day.

Theſe three claſſes of aſſiſtants ſhall not be required to provide inſtruments, nor ſhall they be allowed half-pay; but they ſhall nevertheleſs, on proving themſelves duly qualified, be placed on the ſame liſt with the other aſſiſtants, from the date of the firſt appointment they may receive after ſuch qualification, and commence the time to be reckoned from half-pay from ſuch appointment.

All ſurgeons of the navy who ſhall not have ſerved in the whole ſix years, of which not more than three years time as hoſpital mate or aſſiſtant ſurgeon ſhall be allowed, ſhall receive, when employed, a full pay of 10*s*. per day; and when not employed, a half-pay of 5*s*. per day.

Surgeons of ſhips in active ſervice, after having ſerved ſix years, of which not more than three years time as hoſpital mate or aſſiſtant ſurgeon ſhall be allowed, ſhall be paid 11*s*. per day; their half-pay to be 6*s*. per day.

After having ſerved ten years, allowing not more than three years as hoſpital mate or aſſiſtant ſurgeon, the ſurgeon's full pay

* See on, for a liſt of theſe inſtruments.

ſhall be augmented to 14*s.* per day, his half-pay to remain at 6*s.* per day.

Surgeons of receiving-ſhips, ſlop-ſhips, convaleſcent-ſhips, priſon-ſhips, and all other ſhips, except hoſpital-ſhips, employed only in harbour duty, ſhall be allowed full pay, 10*s.* per day, with half-pay according to the time of their ſervice.

Surgeons appointed to hoſpital-ſhips ſhall receive a full pay of 15*s.* per day, unleſs in caſes where, by the length of their ſervice, they may have become entitled to a ſuperior rate of payment; their half-pay to be regulated, as in the caſe of ſurgeons of other ſhips, by the length of their ſervice.

Every ſurgeon in the navy, excepting ſurgeons ſerving on board receiving-ſhips, ſlop-ſhips, convaleſcent-ſhips, or any other ſhips than hoſpital-ſhips, employed only on harbour duty, ſhall, after twenty years ſervice on full pay, including not more than three years time as hoſpital mate or aſſiſtant ſurgeon, be allowed 18*s.* per day: and after ſuch length of ſervice, all ſurgeons, in whatever ſhips they may have ſerved, ſhall have a claim to retire on a half-pay of 6*s.* per day; but if the cauſe of their retirement ſhall be ill health contracted in the ſervice, and it ſhall be ſo certified by the commiſſioners for ſick and wounded ſeamen, the rate of half-pay on ſuch retirement, after twenty years actual ſervice, ſhall be 10*s.* per day.

Every ſurgeon in the navy, after thirty years ſervice, on full pay, including not more than three years as hoſpital mate or aſſiſtant ſurgeon, ſhall have an unqualified right to retire on half pay, at the rate of 15*s.* per day.

That medicines and utenſils ſhall be provided for the ſervice of his majeſty's ſhips and veſſels, at the expence of government, in ſuch proportions as ſhall from time to time be arranged by

the commiſſioners for ſick and wounded ſeamen; but the ſurgeons ſhall be required to provide, at their own expence, ſuch ſurgical inſtruments as ſhall be judged neceſſary by the ſaid commiſſioners.

No perſon ſhall be appointed phyſician to a fleet or an hoſpital, who ſhall not have ſerved as ſurgeon at leaſt five years; the daily pay of a phyſician, on his firſt appointment, to be one guinea, his half-pay half a guinea.

When he ſhall have ſerved three years as phyſician to a fleet or an hoſpital, his full pay ſhall be one guinea and a half per day, his half-pay 15*s.* per day.

The full pay of a phyſician, who ſhall have ſerved in that capacity more than ten years, ſhall be two guineas per day, his half pay one guinea per day.

That phyſicians, when a reſidence is not provided for them, ſhall be allowed one guinea per week lodging money.

To the widows of phyſicians and ſurgeons, ſuch a penſion ſhall be allowed as the lords commiſſioners of the admiralty ſhall think it right to grant.

None of the officers before mentioned, who ſhall retire from their reſpective employments without the approbation of the commiſſioners for ſick and wounded ſeamen, or who ſhall refuſe to ſerve when called on, if judged capable of ſervice, ſhall be allowed to receive half-pay, nor ſhall their names remain on the naval liſt. Their widows will not in conſequence be entitled to any penſion.

No officer, of whatever deſcription, ſhall be entitled to any of the advantages ariſing from this regulation, who ſhall not

have ſerved during the preſent war, or until he ſhall have ſatisfied the commiſſioners for ſick and wounded ſeamen of his inability to ſerve, but ſuch perſons ſhall be permitted to remain on the ſame eſtabliſhment on which they may now reſpectively happen to be."

THE ſame author has aſſigned a part of his work to what he calls a naval pharmacopœia, or diſpenſatory, and as the obſervations ariſing from long experience, may prove uſeful to our infant navy, the editor will be excuſed for his copious extracts.

"Having now finiſhed, as far as the limits of this work will permit, a general detail of the principles and practice of naval medicine and ſurgery, adapted to the various ſituations and circumſtances of the Britiſh ſervice, it remains, in the laſt place, to conſider the particulars of the medicine cheſt, and to adapt the formulæ of preſcription to the different forms of diſeaſe deſcribed in the preceding parts of the work.

The great objects in naval practice, are, firſt, to carry no more medicines than what are wanted to ſea; and, next, that theſe medicines ſhould conſiſt at the ſame time of the moſt active, cheap, and uſeful articles.

With this view, the following ſelections of articles will be found ſufficient to anſwer every purpoſe. The quantities are intended for the conſumption of one year, for one hundred men; and according to the different rates of the veſſels, and the greater number of men, the quantity muſt be augmented in proportion, at the diſcretion of the ſurgeon.

The aſſortment of theſe articles we ſhall divide into two diſtinct parts, as applicable, firſt to the medical, and, ſecondly, to the ſurgical branch of the ſervice.

I. *Medical Diviſion.*

The medical part of the cheſt may be divided into articles of Diet and Pharmacy.

Dietetic Articles.

The articles of diet for the ſick will fall properly to the charge of the purſer, but ſhould conſiſt of the following liſt of neceſſaries.

Barley,	three hundred pounds.
Eggs,	greaſed and put in ſalt, twenty dozen.
Extract of ſpruce,	twelve pounds.
Lemon-juice,	clarified, and preſerved by adding to it a ſmall proportion of ardent ſpirits, five gallons.
Raiſins,	fifty pounds.
Rice,	two hundred pounds.
Coarſe ſugar,	one hundred pounds.
Sago,	twenty pounds.
Salep,	ten pounds.
Portable ſoup,	fifty pounds,
Tamarinds,	ten pounds.
Beſt white wine,	three hundred gallons.
Beſt red wine,	one hundred gallons.

Pharmaceutical Articles.

Principal Articles.

Peruvian bark,	ten pounds; but if the ſhip is deſtined for a hot climate, twenty pounds.
Calomel,	two ounces and an half.
Emetic tartar,	one ounce and an half.
Ipecacuanha,	four ounces.

Opium,	one ounce.
Purging ſalts,	ten pounds.
Senna leaves,	two pounds.

Secondary Articles.

Aloes,	half an ounce.
Ammoniacum,	two ounces.
Balſam of copaiva,	three ounces.
Cantharides,	one ounce.
Capſicum,	three ounces.
Traumatic balſam,	four ounces.
Camphor,	three ounces.
Caſtor,	one ounce and an half.
Chamomile flowers, or hops,	two pounds.
Cinnamon,	one ounce.
Prepared chalk, or oyſter-ſhells,	ſix ounces.
Conſerve of roſes,	half a pound
Cordial confection,	two ounces.
Cathartic extract,	half an ounce.
Extract of hemlock,	three ounces.
Extract of logwood,	one ounce.
Gentian,	five ounces.
Ginger,	three ounces.
Gum arabic,	four ounces.
Gum guaiacum,	three ounces.
Powder of jalap,	one ounce and an half.
Laudanum,	four ounces.
Lintſeed,	one pound.
Magneſia,	ſix ounces.
Manna,	eight ounces.
Whole muſtard-ſeed,	half a pound.
Myrrh,	four ounces.
Crude mercury,	two ounces.
Corroſive ſublimate,	one ounce.

Nitre,	eight ounces.
Oil of almonds,	one pint.
Caſtor-oil,	half a pint.
Lintſeed-oil,	three pints.
Eſſential oil of mint,	one ounce.
Jamaica pepper,	four ounces.
Bliſtering plaſter,	ten pounds.
Quaſſia,	eight ounces.
Salt of hartſhorn,	two ounces.
Salt of ſteel,	half an ounce.
Salt of wormwood,	ten ounces.
Caſtile ſoap,	half a pound.
Sarſaparilla,	three pounds.
Serpentary,	four ounces.
Spermaceti,	four ounces.
Rectified ſpirit of wine,	one pint.
Weak ſpirit of vitriol,	half a pint.
Spirit of Mindererus,	two pints.
Spirit of turpentine,	four ounces.
Dried ſquills,	half an ounce.
Flowers of ſulphur,	one pound.
Golden ſulphur of antimony,	half an ounce.
Cream of tartar,	one pound.
Vinegar,	ſix pints.
White vitriol,	ſix drams.
Wormwood,	one pound.
Flowers of zinc,	two drams.

As not any diſtilled waters, or tinctures, enter into the above liſt, it is intended that the former ſhould be made by the ſurgeon, with the eſſential oils, by blending a drop with an ounce of common water. The latter, or the tinctures, may be prepared on board with rum, or other ſpirits.

II. *Surgical Diviſion.*

The firſt part of this diviſion to be noticed, is the ſet of inſtruments which are ordered by the Board of Sick and Hurt, and conſiſt of the following arrangement.

A Liſt of Inſtruments, according to the New Regulations, for a Surgeon in the Navy.

3 Amputation knives,
Do. ſaw, with ſpare blade,
Metacarpal ſaw, with do.
2 Catlins,
1 Pair artery forceps, with a ſlide,
24 Curved needles,
2 Tenaculums,
6 Field tourniquets,
1 Pair bone nippers,
1 Turnſcrew,
3 Trephines,
1 Head-ſaw,
1 Lenticular,
1 Raſpatory,
1 Pair forceps,
1 Scalpel,
1 Elevator,
1 Bruſh,
2 Trocars,
2 Silver catheters,
2 Elaſtic gum ditto,
2 Dozen bougies in a caſe,
6 Scalpels,
1 Head razor,
1 Key-tooth inſtrument,
1 Gum lancet,
1 Tooth punch,
2 Tooth forceps,
6 Pewter ſyringes,
2 Seton needles in ſcales,
1 Pair curved ſciſſars,
1 Curved biſtory, with button-in handle,
1 Long probe,
1 Pair bullet forceps,
1 Scoop for extracting balls,
2 Probangs,
2 Sets of common ſplints,
1 Set of japanned, for legs,
2 Pair ditto, for thighs,
12 Rollers,
2 Eighteen tail bandages,
2 Pint Pewter ſyringes,
1 Set pocket inſtruments,
4 Lancets in a caſe.

Aſſiſtant-Surgeons to furniſh themſelves with the undermentioned.

2 Amputation knives,
1 Ditto, ſaw,
1 Metacarpal ditto, with ſpare blade,
1 Catlin,
12 Curved needles,
2 Tenaculums,
2 Tourniquets,
1 Pair bone nippers,
2 Trephines,
1 Head-ſaw,
1 Lenticular,
1 Raſpatory,
1 Pair forceps,
1 Bruſh,
1 Elevator,
2 Trocars,
2 Silver catheters,
1 Elaſtic gum ditto,
6 Scalpels,
1 Key-tooth inſtrument,
3 Spare claws,
1 Gum lancet,
1 Tooth forceps curved,
1 Ditto ſtraight,
1 Punch,
1 Seton needle,
1 Long probe,
1 Pair bullet forceps,
1 Set pocket inſtruments,
12 Lancets,
6 Pewter ſyringes.

Local Remedies.

The local applications neceſſary for ſurgical uſe are not numerous. The following liſt will be ſufficient for one year for one hundred men; and they can be increaſed in proportion to the rate of the veſſel, as the neceſſity for them is more uncertain than for the medical remedies.

	lb.		lb.
Cerate	6	Bliſter plaſter	6
Simple ointment	6	Powder of Spaniſh flies	1
Red precipitate	1	Extract of lead	4
Blue vitriol	0½	Sugar of lead	4

Sticking plaſter ſpread on cloth, tow, lint, rags, &c. at the ſurgeon's diſcretion.

The Work cloſes with the following "Liſt of Britiſh Authors on Naval Medicine and Surgery."

	When published.
Addington on Sea Scurvy,	1753
Arthry's Seaman's Medical Advocate,	1798
Atkin's Navy Surgeon,	1742
Blane on the Diſeaſes of Seamen,	1789
Blane's Short Account of Preſerving the Health of Seamen,	1792
Clarke on Diſeaſes of long Voyages,	1792
Cockburne on Sea Diſeaſes,	1736
De Monchey on Diſeaſes of Voyages to the Weſt Indies,	1762
Falck's Seaman's Medical Inſtructor,	1774
Fletcher on the Health of Seamen,	1786
Gilleſpie on the Preſervation of the Health of Seamen in the Weſt Indies,	1798
Gilleſpie's Obſervations on the Diſeaſes which prevailed on board a part of His Majeſty's Squadron on the Leeward Iſland Station, from 1794 to 1796.	1800
Hulme on the Prevention of Scurvy at Sea,	1768
Jervey on the Prevention and Cure of Scurvy,	1769
Lind on Scurvy,	1757
Lind on the Health of Seamen,	1762
Lind on the Diſeaſes of Seamen,	1774
Lind on the Diſeaſes of Europeans in Warm Climates,	1777
Macbride's New Method of Treating Scurvy at Sea,	1776
Medical advice to Maſters of Ships,	1799
Millar on Navy Diſeaſes,	1779
Milman on Scurvy,	1782
Milne's Account of the Diſeaſes that prevailed in two Voyages to the Eaſt Indies, in the Carnatic Eaſt Indiaman, during the years 1793, 94, 95, 96, 97, and 98, with Obſervations and Medical Remarks,	1803

Moyle's Sea Surgeon, 1702
Northcote's Marine Practice of Phyſic and Surgery, 1770
Paterſon on Scurvy, 1779
Renwick on Sickneſs in Ships of War, 1792
Robertſon's Account of the Diſeaſes which prevailed in two Voyages to the Weſt Indies, and Coaſt of Africa, on board His Majeſty's Sloop Weaſel, in 1769. 1779
Robertſon on Ship Fevers, 1789
Rouppe on the Diſeaſes of Seamen, 1772
Seamen's Medical Inſtructor, 1774
Ship-Maſters Medical Aſſiſtant, 1777
Stewart's Medical Diſcipline, for Preſerving the Health of Seamen in Voyages to Hot Climates, 1801
Sutton on Extracting Foul Air out of Ships, 1749
Tennant on Weſt India Diſeaſes, 1742
Thomſon on Scurvy, 1796
Trotter's Review of the Medical Department of the Navy, 1790
Trotter's Medicina Nautica, 1804
Trotter on Scurvy 1792
Waſtell's Advice to Seamen on Diſeaſes of Hot Climates, 1800
Wilkinſon's Seaman's Preſervation from Diſeaſes, &c. 1763
Winterbottom's Medical Directions for the uſe of Navigators in Hot Climates, 1803

The above liſt is the whole of the Britiſh authors who have written on naval medicine and ſurgery; and if we compare the ſmall number of them with the liſt of individuals who fill the appointments in the navy, we muſt be ſtruck with the little turn for obſervation, which has been diſplayed by ſuch a large body of practitioners.

But it may be juſtly obſerved, that great praiſe is due to the authors who have already treated on marine medicine, and the

moſt beneficial conſequences have attended their ſuggeſtions, both to the health and regulation of the navy in every reſpect. The paucity of the above liſt will be a ſtrong argument in favour of what we have formerly hinted, that each ſurgeon ſhould be obliged, as a matter of duty, to lodge, along with his journal, a detail of ſuch practical obſervations as have occurred to him worthy of notice in his routine of ſervice. How much, indeed, would it tend to the benefit of marine practice, if the ſurgeon of every veſſel in a fleet were to communicate annually his obſervations to the phyſician, and theſe being collected, that a publication ſhould be brought forward every year, under the title of Annals of Marine Medicine, particularly appropriated for the uſe and information of the ſervice.

Extemporaneous Catheter.

A caſe of ſuppreſſion of urine was read at a late meeting of the Philadelphia Medical Lyceum, by Dr. J. S. Dorſey, in which the bladder was evacuated by means of an extemporaneous catheter, deſcribed by Dr. Phyſick, in his ſurgical lectures. As this inſtrument may be found very uſeful to country practitioners, who have not always the elaſtic catheters at hand, we have been induced to copy Dr. Dorſey's account of the manner in which it is prepared.

"I took one of the ſpiral wires from my ſuſpenders, and extended it regularly, until the length was equal to that of a common bougie, taking care to preſerve a cavity in the centre. A piece of bougie plaſter, (linen dipped in melted bees-wax) was applied over this, ſo as to cover it completely; a conical point was next formed, tapering ſo as to become very ſmall at the

end, at about two inches from which, a ſmall hole was cut through the waxed linen, between the gyri of the wire. The inſtrument thus prepared was dipped in oil and very readily entered the bladder."

The introduction of a ſtilette of wire, will in ſome caſes be required, to add to the firmneſs of the inſtrument. The uſual form of the elaſtic gum catheters, having a very blunt extremity, is an inconvenience, to which the extemporaneous inſtrument above deſcribed is not liable, the form of the end may be varied as the caſe requires.

Of the Efficacy of Blood-letting in Parturition, and of a Salivation in the Pulmonary Conſumption.

WHEN your valuable letter to Dr. Miller, M. P. vol. 6. art. 5th. appeared in Maine, I took much pains to alleviate human miſery by adopting your advice. I have been fortunate in my attempts, though amidſt great oppoſition by phyſicians; but I ſoon had the females on my ſide. They now recommend blood-letting to one another, and often ſpeak of Dr. **** with gratitude. The good effects of bleeding in moſt caſes of pregnancy and parturition, are as obvious, as they are conſonant with reaſon and humanity.

When your letter to Dr. Miller, on the ſalutary effects of a ſalivation in pulmonary conſumption came into my hands, I took pains to carry it to patients, labouring under that diſeaſe, and let them read it. And I have the happineſs to inform you, that ſeveral have allowed me to give the means a trial, and that it has ſucceeded far beyond my expectations.

It has cured ſome ſtubborn local affections of the throat and lungs; greatly alleviated others of long continuance; and I am now in the uſe of it upon ſome, the favourable termination of whoſe caſes, I hope ſoon to communicate to you.

My ſucceſs has already been ſo great in the uſe of calomel, for theſe morbid affections of the lungs, that all prejudice is laid aſide againſt that truly valuable article. Patients have even called upon my pupils, who are now in the ſtudy of medicine with me, for *ſalivating pills to cure their coughs.*

Extracted from a letter of Dr. Jeremiah Barker, *of Falmouth in the Diſtrict of Maine, to* Dr. Benjamin Rush, *dated September 22d.*

Caſe of a Dolor Faciei, where the Diſſection of the Nerve had no Effect. By Dr. Kopp, *of Bayreuth.*

A Diſeaſe whoſe nature and cure in general are very problematical, deſerves the attention of every profeſſional man, particularly when the efficacy of an operation, generally believed infallible, is called in queſtion.

A lady, ſixty years old, and mother of ſeveral healthy children, became affected with the dolor faciei in a moſt excruciating manner. The ſeat of the moſt violent pain was between the eye, noſe and mouth, which increaſed periodically during ſeveral years. Beſides theſe affections, ſhe complained of a luminous ſhining in the eye, like lightning, when the pain commenced; which made it ſtill more inſupportable. She had never been affected with the gout or rheumatiſm; neither had ſhe

ever ſuſtained a leſion of the head; and no veſtige of a cancerous diſpoſition was to be perceived. The lady had taken with great patience an immenſe number of medicines; but neither hemlock, nor antimony, belladonna, &c. produced the ſmalleſt relief. A great many empirical methods had been tried without ſucceſs. The only hope reſted on the operation, the diſſection of the infra-orbital nerve. About three quarters of an inch below the lower margin of the orbita, the inciſion was made obliquely, an inch long, and quite to the bone. The ends of the infra-orbital nerve, by moving the inſtrument, were perfectly ſeparated. In the ſame manner, about half an inch from the upper margin of the orbita, an inciſion was made through the *nervus frontalis*. Both wounds were kept in ſuppuration for ſome time. The operation being performed, a ſedative and ſtrengthening medicine was preſcribed. Thirty-ſix hours after, part of the noſe, and the upper lip at the left ſide, became cold and ſenſeleſs; in the ſame manner the front towards the temples. The ſuppuration went on well. The third day after the operation the pain commenced again, but much diminiſhed. The luminous ſenſation was not perceived, and ſhe felt no pain in the teeth of the upper jaw-bone; but her hopes ſoon vaniſhed, and five months after, ſhe ſuffered as much as before, requeſting again the aſſiſtance of Dr. Kopp.

Med. and Phyſ. Jour.

Reſult of Experiments on the Torpedo.

The following reſults have been given from experiments made on the torpedo by Meſſrs. Humboldt and Luſac: 1. Though the ſtrength of the torpedo is far inferior to that of the gymnotus, it is equally capable of cauſing painful ſenſations. 2. The

gymnotus gives the moſt violent ſhocks, without any exterior movement of the eyes, the head, or the fins; but the torpedo ſuffered a convulſive movement of the pectoral fins each time it gave a ſhock. 3. The powers of theſe fiſh cannot be excited at pleaſure; they muſt be irritated before they will give a ſhock; of courſe the action depends on the will of the animal. 4. The ſhock is equally felt on touching with one finger a ſingle ſurface of the electric organs, as on applying the two hands to the two ſurfaces at once. 5. When an inſulated perſon touches the torpedo with a ſingle finger, the contact muſt be immediate, as no ſhock will be felt if a conducting body, of metal for example, be interpoſed between the finger and the organ of the fiſh; but if both hands are uſed, one touching the fiſh, and the other the metal, a ſevere ſhock will be felt. 6. The moſt ſenſible electrometer manifeſts no electrical tenſion in the organs of the torpedo, in whatever way it is applied. The leaſt injury on the brain of the torpedo deſtroys its electric powers.

Med. and Phyſ. Jour.

Of the Identity of the Electric Fluid, whether produced from Glaſs or reſinous Bodies.

M. Bienvenu, a French experimenter in philoſophy, thinks he is able to demonſtrate, that, contrary to the common opinion, glaſs and reſinous bodies produce the ſame kind of electricity; and that the difference obſerved depends, not upon the glaſs or roſin, but upon the nature of the rubber. He excited an electrophorus of roſin with the ſkin of a cat, and it ſhewed negative electricity; another electrophorus made of glaſs, when rubbed with the ſame ſkin, exhibited the ſame electricity as the former. This experiment proves, that, if the conductor of an

electrical machine gives out conſtantly electricity of the poſitive kind, it is owing to the cuſhion being made of morocco leather; this having the property of developing the electricity of the glaſs, which communicates to the conductor poſitive electricity. In order to prove this, he ſubſtituted for the cuſhion of leather one made of the ſkin of a cat: it was then found that the glaſs was electrified negatively; and the conductor, furniſhing it with the electricity it had loſt, ſhewed alſo negative electricity. This fact is of ſome importance to the theory of electricity.

Med. and Chir. Rev.

On the Anti-putrefactive Property of Arſenic.

Profeſſor Pfaff, of Kiel, having been called to open the body of a perſon poiſoned with arſenic, found that though it had lain 18 days in the grave, putrefaction had not made any perceptible progreſs. This induced him to undertake an inveſtigation thereof in a chemical point of view. From a compariſon of the phenomena he here found, with thoſe recorded in the works of other writers, he drew the concluſion, that arſenic, even when it remains a conſiderable time in the ſtomach, is not perceptibly diſſolved, but if it has been adminiſtered in ſubſtance, is again found there in that ſtate, with hardly any loſs, provided it has not been thrown up whilſt the patient was alive. On the whole, it appears that arſenic is in a high degree inſoluble; that of a large quantity left ſeveral weeks in contact with water, which was frequently poured over it, no evident ſolution took place. Of all the reagents or teſts of its preſence, he found water impregnated with ſulphurated hydrogen gas the moſt active, inſomuch that the preſence of arſenic diffuſed in 60,000 times its weight of water was ſtill betrayed by the well

known yellow colour. The profeſſor conſiders a peculiar corrugation of the heart, eſpecially on its anterior ſurface, as the ſureſt ſign of death having been cauſed by this poiſon.

Med. and Phyſ. Jour.

Whether Senſation remains after Decollation.

This queſtion having been lately agitated at the Society of Medicine of Paris, upon the reading of a Memoir preſented to the ſociety by M. Calabre, it was attempted to elucidate it by direct experiment. M. Dupuytren demonſtrated, that, upon the diviſion of the cervical vertebræ in dogs, winking might ſtill be excited in them, for the ſpace of a minute, upon bringing any body ſuddenly before the eye. But in this caſe, the brain was ſtill excited by the appulſe of blood; a circumſtance which does not take place in decollation. The experiment, therefore, cannot be conſidered as concluſive.

Med. and Chir. Rev.

Fluoric Acid in the Enamel of Teeth and in Ivory.

Gay Luſſac has made further experiments relative to the diſcovery of Marechini, of fluoric acid in the enamel of the human teeth and in ivory. He found that the whole maſs of ivory, and not merely the enamel, contains fluoric acid. He obtained the ſame reſult from experiments with foſſile ivory and the tuſks of the wild boar. It is a remarkable fact, that as in the teeth the fluoric acid occurs in combination with the phoſpho-

ric acid, the phoſphat of lime brought from Eſtremadura contains likewiſe fluat of lime, and that the earth brought from Marmoreſch conſiſts of much fluat of lime.

Med. and Phyſ. Jour.

Curious Phenomenon of Human Structure.

There at preſent lives at *Void*, a town in France, in the department of the *Meuſe*, a perſon poſſeſſing a ſurpriſing ſingularity of ſtructure and functions. His name is *Claude Rouget*; he is near ſixty years of age, and enjoys good health, though deprived of the uſual way of paſſing his excretions, the mouth ſerving, by turns, the purpoſes of maſtication and dejection. Deficient nearly in all the lower parts of the body below the buſt, he is fixed on a ſmall carriage, which the children amuſe themſelves by drawing from place to place through the ſtreets, where he ſolicits public charity.

When very young, he ſuffered a gradual and long-continued compreſſion of the whole abdomen, ſo as ſeemingly to obliterate all the viſcera, as the inteſtines, liver, ſpleen, kidneys, bladder, pancreas, and meſentery, and all the excretory organs. The belly appears agglutinated, as it were, to the ſpine; the inferior extremities are waſted away, and the anus totally obliterated. This unfortunate being continues his exiſtence by means of the glands of the ſtomach, which abſorb a minute portion of chyle diluted by the ſalivary and gaſtric juices. In leſs than a quarter of an hour after taking food, he returns it again by the mouth, in the form of a thick emulſion, with as much or more eaſe than he could do it by the natural paſſage. This quick return of the food obliges him to eat at very ſhort intervals.

Med. and Chir. Rev.

On the Abſorption of Azotic Gas in Reſpiration.

Profeſſor *Pfaff*, of *Kiel*, has been lately engaged in making a number of intereſting experiments on reſpiration, which tend not a little to elucidate that important function. The abſorption of oxygen in the lungs, and its influence on the production of animal heat; the formation or expulſion of carbonic acid gas in reſpiration; were circumſtances that had been long known, and explained with tolerable accuracy. The part which azote performs in the proceſs is a more recent diſcovery. Goodwin thought he had obſerved a conſiderable abſorption of azotic gas in reſpiration; but his experiments on the ſubject were not deciſive, and were conſequently diſregarded. The late more accurate experiments of Mr. Davy put the fact beyond doubt; and, if any confirmation of it were wanted, it is furniſhed by the experiments of M. Pfaff, here alluded to.

There ſeems no reaſon to doubt that azotic gas performs ſome important office in reſpiration, which, however, we are not at preſent able to aſſign with any certainty. It is not improbable that it promotes the decompoſition of the oxygen in the lungs or blood-veſſels, from this circumſtance, that it was found by the celebrated Lavoiſier that much more oxygen was decompoſed in the ſame time by reſpiring atmoſpheric air, which is a mixture of oxygene and azote, than by breathing of pure oxygen gas. This curious fact is analogous to another, namely, that the ſlow combuſtion of phoſphorus does not go on in oxygen gas, unleſs there is preſent at the ſame time a portion of azotic gas, as in the compoſition of the atmoſphere. The azote abſorbed during reſpiration alſo enters, probably, into the compoſition of the fluids, and ſerves to render them more highly animalized, or azotized. In this way we may account for

the transformation of chyle into blood, during its paſſage through the lungs.

Med. and Chir. Rev.

On a Caſe of Premature Delivery, by Mr. Simmons.

Practitioners have hitherto confined themſelves to the exciting of premature delivery, to ſuch caſes of diſtortion of the pelvis as had previouſly been conſigned to the uſe of the crotchet. This important fact was firſt promulgated by Mr. Barlow, of Bolton, (Med. Facts and Obs. vol. viii.) and it has ſince been confirmed by the experience of Mr. Hardman, of Manchester, (Medical and Phyſical Journal) and is now I believe pretty generally followed as a rule of practice in ſuch caſes. The preſervation of the child is obviouſly the primary object for the bringing on of premature labour in the diſtorted pelvis; yet, if the ſafety of the mother, under particular circumſtances, without diſtortion, ſhould require ſimilar means to be employed, with ſafety to the child, ſurely no good reaſon can be aſſigned why they ought not to be adopted. On this untrodden field I have lately ventured, and with a reſult entirely ſatisfactory.

Mrs. W——, a woman of a delicate habit of body, and the mother of many children, had, during all her former pregnancies, been much troubled with ſickneſs and vomiting, and contrary to what uſually happens, both theſe ſymptoms had rather increaſed than diminiſhed, after quickening, and continued until ſhe was brought to bed.

Before this laſt pregnancy, ſhe had not lain in of ſix years; yet even this long interval had produced no beneficial change in her conſtitution, for the former ſymptoms of ſickneſs and

vomiting recurred, and with increaſed violence. I was firſt requeſted to ſee her when ſhe was about ten weeks off the full time; a cough, from which ſhe was ſeldom free, was then much aggravated by a ſevere cold which ſhe had caught; her ſtomach was in ſo irritable a ſtate as to retain ſcarcely any thing taken into it, and ſhe was tormented beſides with an almoſt inceſſant cardialgia. For the cardialgia ſhe had had frequent recourſe to magneſia ſuſpended in ſimple water, which gave ſome relief at the moment, and uſually ſtaid with her, but by the frequency of its repetition its laxative effect had proved conſiderable, and contributed very much to reduce her.

In the courſe of my attendance ſhe took the carbonic acid gas, either in the effervеſcing draught, or as combined in Henry's ſoda water; lime and mint-waters, with and without columbo, abſorbent and aromatic powders, the aqua kali and other remedies; the ſtomach was embrocated with opiate and aromatic embrocations; and recourſe was alſo had to bliſters. Opium in a ſolid form was the only medicine from which ſhe experienced any relief; and latterly the tincture of opium was adminiſtered by way of glyſter. Nevertheleſs, the irritability of the ſtomach went on increaſing, and even a ſingle grain of ſolid opium was at length rejected, ſo that no food could be retained to ſupply the natural waſte of the body.

In this ſtate of the caſe, I appriſed both her and her friends, that the only hope of her recovery reſted on the bringing on of premature labour, the particulars of which I endeavoured, by explanation, to render intelligible to them. While they were coming to a determination upon the ſubject, nutritious and opiate enemas were injected, and baths of milk were applied to the lower extremities. However, they all ſoon became impatient, and even urgent for her to ſubmit to my propoſal; convinced that her exiſtence muſt be ſhort, unleſs ſhe could thus obtain relief.

Upon this ſolicitation, ſix weeks from her full time, about eight o'clock on the evening of the 24th of March, 1806, I ruptured the membranes, an event which was denoted by the uſual ſign; at ſix in the evening following, ſhe was taken in labour; and, at ten the ſame evening, ſhe was delivered of a living child, after a labour, the other parts of the proceſs of which were natural and eaſy.

From the time of her delivery, the ſickneſs gradually abated, and ſhe was enabled to retain ſome food upon her ſtomach; with the aſſiſtance of opium, her complaints by degrees left her; and, though ſtill delicate, ſhe is nearly reſtored to her former ſtate of health. The child is ſtill alive, and likely to live.

The principle of exciting premature delivery being once received, it may be eaſily transferred to other caſes than thoſe of diſtortion. In the preſent inſtance, the experiment has been fully juſtified, not only by the ſaving of the child, but by the preſervation of the life of the mother, for which indeed it was here inſtituted. But notwithſtanding my ſucceſs in the preſent caſe, and my ſenſe of duty to repeat the experiment under ſimilar circumſtances, I cannot too earneſtly proteſt againſt the haſty adoption of ſuch a meaſure. Language can ill convey a proper ſenſe of my anxiety pending the deciſion; and I do entreat that it may be carried into effect only upon the moſt urgent neceſſity to preſerve life, and after the moſt mature deliberation. *Med. and Phyſ. Jour.*

Edwards's Caſe of Scurvy, cured by the Arſenical Solution; addreſſed to the Editor of the Medical and Phyſical Journal.

GENTLEMEN,

The following caſe of inveterate ſcurvy came under my notice; and as I long wiſhed to give a fair trial to the arſenical ſo-

lution in ſuch caſes, I conceived this to be a favourable opportunity; the reſult is ſtated exactly as it occurred, and if my feeble efforts can, in any ſhape, advance medical ſcience, they will be exerted with that view, ſubmitting with all deference to your better judgment ſuch caſes as may appear to carry any importance, as new, either in their nature or cure.

The ſubject of this caſe, is the cook of a gentleman in this city, (Bath) a woman about the age of 50. She has been ſubject to ſcurvy many years, which commenced in the palms of her hands, and gradually extended over her hands and arms, and partially in other parts of the body; but the hands and arms appear to be primarily and moſt materially affected, ſo much ſo, as to ſtiffen and partially contract the joints of the fingers and elbows.

Her mind dwelt ſo much on the diſagreeable nature of the diſeaſe, as to occaſion her general health to decline; her habit of body was coſtive, with loſs of appetite; ſymptomatic fever, characteriſed by a ſmall quick pulſe, conſtant thirſt, white tongue, and frequent inclination to vomit. She had tried many regular profeſſional men in this city and elſewhere, as alſo the uſe of our baths, and many of the noſtrums advertiſed for the cure of ſuch complaints, but in vain. The diſeaſe evidently appeared to gain ground, by rendering her leſs capable of uſing her hands and arms. In this deplorable ſtate, ſhe applied to me on the 6th of January laſt. In the firſt place I deemed it prudent to detach her mind from ſo forcibly dwelling on her diſeaſe, or rather deſpairing of relief: after which I diminiſhed the prevailing ſymptoms of fever, by firſt ordering an emetic, and afterwards a briſk aperient, as the chylopoetic viſcera appeared deranged. The emetic and aperients had the effect of reſtoring the ſtomach and bowels to a healthy ſtate; ſmall doſes of antimonial powder, joined with nitre, were continued till her health was materially mended.

On the 24th of January I ordered her the mineral ſolution, beginning with gtt. vj. bis die, in decoctum ulmi, increaſing one drop per diem, provided nauſea was not cauſed.

This plan was ſtrictly adhered to, and at the end of a week I ſaw her, and found that the diſeaſe evidently was yielding, and the general health mending, an increaſe of appetite, and undiſturbed ſleep. She continued the ſolution for a month, and had increaſed the doſe to gtt. xxx. bis die; at the end of which time I ſaw her comparatively well; the blotches in her hands, and different parts of the body, were not only gone, but the flexibility of the joints perfectly reſtored. Animated by the hope that ſhe ſhould obtain a perfect cure, ſhe was anxious for more of the drops; continuance was ordered, but not an increaſe, becauſe I found that her health was perfectly re-eſtabliſhed, and the diſeaſe nearly eradicated, therefore I judged it prudent not to puſh the remedy farther.

She continued taking 30 drops till the 14th of May, when ſhe expreſſed herſelf deeply indebted to me for her cure, and for the enjoyment of health, which ſhe had not experienced for upwards of 30 years; and I am happy to ſay, that the ſkin, even the parts moſt ſeverely affected, does not bear a trace of any diſeaſe, and that ſhe is perfectly reſtored to health.

I have frequently given it in tertian intermittents with ſucceſs, and in caſes of ſcurvy; but of its ſpecific qualities in this kind of eruption I never before was ſo well ſatisfied.

The antiſcorbutic properties of this mineral claims the attention of medical men, in order to diſcover its further effects in the cure of ſuch diſeaſes.

It appears to me, that the attention ſhould be firſt directed to the ſtate of the general health, before the adminiſtration of

the ſolution, otherwiſe, the indiſcriminate uſe without judgment, might not only not anſwer the intended end, but prove dangerous to life itſelf.

Med. and Phys. Jour.

Of the State of Medicine in Portugal. By J. Adams, M. D.

" Dear Sir,

" As you expreſſed a wiſh to know the ſtate of medicine in Portugal, I have ſent you all that I could collect on the ſubject in one of her colonial ſettlements.

" Throughout the extenſive dominions of Portugal, no one practiſes any branch of medicine without a licenſe. The midwives (this branch of medicine is in all common caſes confined to women) and the barbers are all licenſed: the latter are the tooth-drawers, bleeders, and practitioners in ſmall ſurgery, as well as ſhavers. In the country they are alſo practitioners in medicine, taking for their aſſiſtance ſuch preſcriptions as they become poſſeſſed of from the phyſicians who are occaſionally called to viſit the wealthier inhabitants of their diſtricts. Of late years they have been further inſtructed by a tranſlation of Buchan's Domeſtic Medicine. No perſon can practiſe any two of the branches united. The phyſicians muſt all be graduates of ſome univerſity; ſuch as have graduated in Coimbro' are licenſed to practiſe *extra muros* on a bachelor's degree. This is, probably, the origin of the *extra licentiates* of the London College.

" The Archiatros, or proto-medicato, reſides in Liſbon, and licenſes all the practitioners of his diſtrict; he alſo appoints a

Medico-mor, or chief phyſician, for every diſtrict in the kingdom and its colonies. It is the buſineſs of this officer to make regular reports of all the practitioners of every deſcription in his diſtrict to the Archiatros.

"By an order from the crown, every phyſician muſt write his preſcription in the Portugueſe language; a very neceſſary precaution, in a country where the apothecaries are often ſo ill educated; for, never being expected to do any thing out of their ſhops, their whole attention is confined to the ſubjects of pharmacy.

"The fee of a phyſician, when he gives advice at home, is fixed at little more than a ſhilling: if the patients chuſe to offer more, he is at liberty to receive it, but cannot refuſe his advice for the above ſum. For viſits abroad, the pay depends upon the liberality of the patient, or the demands of the phyſician. All families of any conſequence conſider their phyſician and lawyer as a part of their eſtabliſhment, and pay them annually a certain ſum, according to the rank the family aſſumes. If, however, more than ordinary attendance is required, an additional gratuity is expected.

"If a phyſician diſpenſes his own medicines, or an apothecary preſcribes, either is liable to puniſhment: but the Medico-mor muſt report to the Archiatros, and the Archiatros appeal to the civil officer of the diſtrict; the phyſician of the diſtrict having no other power than to enforce his injunction in the firſt inſtance.

"Perhaps if there is any profeſſion, the practitioners of which ſhould be reſtrained, it is medicine; and if any reſtraint is required, it is not eaſy to find one more unexceptionable than the above. In the preſent ſtate of England, many objections to adopting it will occur; becauſe the apothecaries from being

expected to practiſe, have generally qualified themſelves for that purpoſe; and moſt of them, likewiſe, by a prejudice which ſeems unfortunately gaining ground, are expected to practiſe midwifery.

"The Medico-mor has not only this power over the practitioners in his diſtrict, but, in diſputes between the patient and his medical attendant of any deſcription, he can decide in the firſt inſtance, if the caſe comes within the ſcope of a written law. A ſurgeon made a claim on his patient on account of a contract entered into between them, that the cure ſhould be performed for a certain ſum, provided the patient rigorouſly complied with the rules laid down. A part was advanced. The patient, finding himſelf no better, grew tired of his reſtraint and of his ſurgeon. The latter demanded the remainder of the ſtipulation, urging that he was ready to fulfil his part of the contract, and threatening a legal proceſs. The Medico-mor, hearing of the tranſaction, not only ordered the law officer to prevent the patient from paying more, but that the ſurgeon ſhould refund the firſt ſum, becauſe the whole contract was illegal.

"Theſe, Sir, are all the particulars which at preſent occur to me on the ſtate of medicine in Portugal. If they contain any hints that may be uſeful in the preſent important diſcuſſion, they are at your ſervice." *

Med. and Chir. Rev.

* This refers to the attempt at a medical reform in Great Britain.

Caſe of Fracture cured by the Uſe of Nitric Acid. By Dr. PENEL *of Abbeville.*

An elderly man, whoſe left thigh had been fractured obliquely, at its inferior part, was received into the Civil and Military Hoſpital at Abbeville. The reduction of the fractured bone was eaſily obtained, and the ſymptoms ſoon diſappeared. On the fourteenth day, when the dreſſings were removed, the parts appeared in a good ſtate; the following morning, however, the patient complained very much of his thigh, although the fracture ſeemed not to be deranged. On the nineteenth day the bone was ſlightly ſwollen; the callus appeared to get more conſiſtency; but the fever continued. On the 27th day, Dr. Penel, having removed the dreſſing, perceived more evidently the ſwelling of the bone; and the callus exhibiting ſome inequalities, cauſed him to ſuſpect the preſence of a morbid poiſon. About this time, the Peruvian bark and antiſcorbutic remedies were employed, but without the intended ſucceſs. On the 40th day the bone appeared ſtill more tumid; the callus preſented a conſiderable tumour, which appeared ſolid. The dreſſings were now entirely removed, and the limb laid on a bolſter; after which the patient found himſelf better; but, on a ſudden, the muſcles contracted, the callus was deſtroyed, and the whole member ſhortened; and it was neceſſary to make a forced and laſting extenſion, in order to reduce it to its former length. Dr. Penel obſerving that the urine depoſited a conſiderable quantity of a greeniſh ſubſtance, found it, on examination, to be phoſphat of lime. The ſwelling of the limb diſappeared a few days after, and the fracture ſeemed again to conſolidate; the urine, however, remained the ſame, and was paſſed in a greater quantity; the febrile motions continued, but the ſwelling of the bone was not augmented. Two months after the fracture, the callus appeared

again ſolid, and Dr. Penel continued the dreſſings 20 days longer; but they were ſcarcely removed, when the patient found himſelf unable to ſtand, and perceived the ſame ſymptoms as at firſt. On viſiting him, two days after, the extremities of the fracture ſeparated, and the author was obliged to undertake the reduction a third time. He now determined to give the patient, internally, nitric acid, which he accordingly took, in a doſe of one demi gramme per day (about ʒſs) diluted in a kilogramme of water (about lb ij). The urine became clearer, the fever ceaſed, and, eight days afterwards, the patient found himſelf ſo well, that he deſired the dreſſings might be removed; this requeſt, however, was not complied with, till the fourth month after his firſt reception, when he left the hoſpital, as he could walk with great eaſe, and without crutches.

Med. and Phys. Jour.

Goetling's improved Preparation of Kermes Mineral.

Reduce ſeparately to powder, and afterwards mix ſixteen parts of crude antimony, twenty-four parts of purified potaſh, and three parts of flowers of ſulphur; introduce the mixture into a crucible, and let it enter into complete fuſion. After it has cooled, pulverize the maſs, and boil it for half an hour in one hundred and twenty-eight parts of water; filter it while boiling through a thick cloth, letting it run into an earthen pan containing one hundred and fifty-ſix parts of water, and leave it expoſed to the air, in a ſhallow veſſel, for two or three days, or until particles of a bright orange colour appear on its ſurface. Afterwards decant the liquid, waſh the depoſit in a large quantity of water; then remove it on a filter, and complete the edulcoration; when this is done, dry it by a gentle heat.

This proceſs yields twelve or fourteen parts of Kermes mineral of a fine reddiſh brown colour; the whole quantity of antimony, except a trifling reſiduum of extraneous matter, is diſſolved and converted into Kermes, and only a very ſmall quantity remains in the decanted liquor, in the form of golden ſulphur.

Med. and Phys. Jour.

Purification of Water.

A member of the ſociety of ſciences and belles-lettres at Douy, has lately publiſhed a ſimple proceſs for purifying water. He takes a common garden pot, in the middle of which he places a piece of wicker work; on this he ſpreads a layer of charcoal of four or five inches in thickneſs, and above the charcoal a quantity of ſand. The ſurface of the ſand is covered with paper pierced full of holes, to prevent the water from making channels in it. This filter is to be renewed occaſionally. By this proceſs, which is at once ſimple and economical, every perſon is enabled to procure pure limpid water at a very trifling expenſe.

Med. and Phys. Jour.

DEATHS.

Doctor John Church, of Philadelphia.

Benjamin Bell, Eſq. Member of the Royal College of Surgeons of Ireland and Edinburgh; the well-known author of ſeveral valuable works on Surgery, &c.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

BENNION, *on the Gibraltar Fever.*

Windſor, July 4, 1805.

SIR,

THE encloſed letter from Thomas Bennion, Eſq. Garriſon Surgeon of Gibraltar, I received two days ago. We have had but very ſcanty accounts of the diſeaſe which ſo fatally raged there; this account therefore, though imperfect, may perhaps be acceptable. An account from Mr. Bennion muſt be particularly intereſting, as he was ſurgeon of the 10th Regiment while the diſeaſe raged, and it will be recollected that the mortality in that regiment was ſo very much ſmaller than in any other corps in the garriſon. See the account publiſhed in the Medical and Phyſical Journal, by the Ordnance Surgeon at Gibraltar.

I am, &c.

JAMES M'GRIGOR.

DR. BATTY.

Gibraltar, April 8, 1805.

SIR,

The Garriſon is now perfectly clear of that cruel diſeaſe which proved ſo fatal both to the ſoldiers and to the inhabitants here. You aſk me, what the diſeaſe is, or to what claſs it belongs? I

This proceſs yields twelve or fourteen parts of Kermes mineral of a fine reddiſh brown colour; the whole quantity of antimony, except a trifling reſiduum of extraneous matter, is diſſolved and converted into Kermes, and only a very ſmall quantity remains in the decanted liquor, in the form of golden ſulphur.

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MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

BENNION, *on the Gibraltar Fever.*

Windsor, July 4, 1805.

SIR,

THE enclosed letter from Thomas Bennion, Esq. Garrison Surgeon of Gibraltar, I received two days ago. We have had but very scanty accounts of the disease which so fatally raged there; this account therefore, though imperfect, may perhaps be acceptable. An account from Mr. Bennion must be particularly interesting, as he was surgeon of the 10th Regiment while the disease raged, and it will be recollected that the mortality in that regiment was so very much smaller than in any other corps in the garrison. See the account published in the Medical and Physical Journal, by the Ordnance Surgeon at Gibraltar.

I am, &c.

JAMES M'GRIGOR.

DR. BATTY.

Gibraltar, April 8, 1805.

SIR,

The Garrison is now perfectly clear of that cruel disease which proved so fatal both to the soldiers and to the inhabitants here. You ask me, what the disease is, or to what class it belongs? I

have never been in the Weſt Indies, or on the continent of America, I conſequently cannot poſitively ſay that it was the yellow fever; but it appeared to me, to be that very diſeaſe as deſcribed by authors, particularly by Dr. Chiſholm. It likewiſe often appeared in the ſhape of a diſeaſe which you and I ſaw often in Egypt, the plague; but I ſhall give you ſome deſcription of it, and will divide the ſymptoms as they appeared, into two ſtages.

In the firſt, the patient is ſeized without any previous notice, with giddineſs, pain of the head, ſlight ſickneſs at ſtomach, darting pains from the head to the back, and ſpaſmodic affection of the calves of the legs. Sometimes there were rigors, and in ſeveral caſes the ſickneſs at the ſtomach did not come on for ſome hours after the firſt attack. The breathing was very hot, there was inceſſant ſighing, the greateſt dejection of ſpirits, with apprehenſions of the moſt diſtreſſing nature. The patient ſaid he felt as if ſeverely beaten; the fear of death is very great, and friendſhip for the neareſt kin is extinguiſhed. The tongue was at the beginning very white; a bad taſte was complained of; the ſenſe of ſmelling was imperfect or depraved; the viſage was extremely diſtreſſed; there was an unwillingneſs to ſpeak, a deſire to remain in a horizontal poſture, and great tottering on any attempt at motion.

The countenance on the firſt attack became ſuddenly ſallow; in the courſe of a very ſhort time however it became red, full, and bloated, with the exact appearances of intoxication. Drowſineſs and ſleep followed in a few hours, when a little moiſture came out on the ſkin; this appearance at this ſtage was however deluſive, and often deceived the practitioner. It ſuddenly left the patient, and was ſucceeded by the moſt intenſe heat, that gave a ſmarting ſenſation to the fingers when applied to the ſkin. There was at this time a moſt uncommon and offenſive ſmell from the whole body. The eyes were now much in-

flamed, there was violent pain in the temples and over the arches of the eye-brows, darting to the orbits.

The pulſe from firſt to laſt was greatly increaſed in quickneſs; in ſome it was rather hard, though in more it was ſmall and ſoft, and never ſo ſtrong and firm as in inflammatory diſeaſes.

The thirſt was leſs than it is generally in acute diſeaſes. There was a ſtrong pulſation of the carotid arteries, and an evident enlargement of the jugular veins.

The colour of the ſkin at firſt approximated to that of the lilac, cocklicoque, violet or poppy, and changed as the diſeaſe advanced to a deep dark yellow. By the adminiſtration early of ſtrong emetics and purgatives on the firſt attack, the yellowneſs ſeldom appeared, and every other bad ſymptom was averted.

When theſe had not been exhibited; and in ſome caſes, where the diſeaſe from firſt appeared in a more aggravated form, the ſecond ſet of ſymptoms, or what I called the ſecondary, ſoon appeared; the patient was very comatoſe, there was much tremor of the limbs, frequently an inceſſant vomiting of a black matter, with a convulſive hiccup. The eyes were drawn in a direction alternately from the noſe to the temples in the moſt frightful manner, with nearly a total blindneſs.

The ſkin was now parched up with a burning heat, or covered with a clammy offenſive ſweat.

The body was covered with petechiæ and vibices, ſwellings appeared under the arm-pits and groins, which frequently de-

generated into large abſceſſes. Foul gangrenous ſores appeared on the back, and carbuncles were ſeen on different parts of the body. There were hæmorrhages from the noſe, ears, mouth, and pores of the body, with every appearance of a total diſſolution of the blood-veſſels. Then the fæces and urine were paſſed involuntarily, and the other uſual ſymptoms indicated ſpeedy diſſolution.

As to the nature of this diſeaſe we were by no means agreed; different medical councils were held in the garriſon, and at firſt it appeared to be the opinion of a majority that the diſeaſe was not contagious; a fatal opinion to be acted on, as ſubſequently appeared.

I arrived here a few days after the diſeaſe made its appearance, and of courſe could not give any opinion about it, until I had thoroughly ſeen the diſeaſe and inquired into its hiſtory. General Barnett again ſtrongly urged us to ſay whether it was contagious; alas! I ſoon diſcovered it to be the neareſt relation to the plague; ſome caſes from the firſt, putting on the appearance of this diſeaſe, others of the typhus gravior, and others of the yellow fever.

As to the mode of treatment, that which I followed is very ſimple, and is ſoon deſcribed. I have little to remark on the plans of others; it is known that they were not equally ſucceſsful. Some of our ableſt men were inclined to interrupt the courſe of the diſeaſe but little; and gave little but diluents and cordials. Others bled very freely; and others gave the bark very liberally and early.

My mode of treatment was as follows. My firſt ſtep was invariably to put every patient into a bath, which was generally warm; when taken out, the body was well rubbed with ſoaped flannel, and then he was put into bed. If the powers

of life were ſtrong, an emetic ſolution was next given, of Tartar emetic and Glauber ſalts. This ſolution generally operated pretty ſmartly both on the ſtomach and bowels; and when it did its office well, I have frequently had little more to do but to remove debility, the patients being often well on the third day. If the ſolution, perſevered in for ſome time, did not operate, which was frequently the caſe at firſt, the ſtomach and bowels being very inſenſible, I gave calomel, and continued giving it either by itſelf or with jalap, or with the compound extract of colocynth. I endeavoured by all means to keep up the alvine diſcharge; when obtained, the patient was found perfectly relieved, and free from fever. If not, the fourth or fifth day generally put an end to all inquiry. But in many, no evacuation could be procured by any means; in others there was a violent diarrhœa.

I diſſected the bodies of a few; the general appearances were, the deſtruction of the internal coat of the ſtomach, inflammation and ulceration of the inteſtines, ſometimes of other of the abdominal viſcera.

I have little more to ſay, than that after procuring evacuations, I preſcribed ſaline medicines when little fever remained; but when the diſeaſe continued after the third day, it frequently turned out to be the ſevereſt typhus. I then found the greateſt benefit by Dr. Carmichael Smyth's mode of treatment, as laid down in his book on the Wincheſter fever. Opium or bark did not ſucceed; when liberally given, I perceived them evidently doing miſchief. The ſhip is getting under way, and I muſt conclude.

Yours, &c.

THOMAS BENNION.

Med. and Phys. Jour.

Ross, *on the Gibraltar Fever.*

London, Auguſt 10, 1805.

Sir,

The encloſed extract of a letter from Thomas Roſs, Eſq. Surgeon to the forces at Gibraltar, gives ſome further account of the fever which raged ſo fatally there. I only regret that the account is ſo ſhort from Mr. Roſs, who is ſo well qualified to have given a longer and more complete one. Mr. Roſs, from twenty years experience of fever in the Eaſt and Weſt Indies, China, Egypt, and Gibraltar, could have given ſome valuable remarks and compariſon of fever as appearing in theſe various regions.

Yours, reſpectfully,

JAMES M'GRIGOR.

Dr. Batty.

Symptoms of the Fever which prevailed at Gibraltar in September, October, November and December, 1804.

It commences with the uſual ſymptoms of fever; ſometimes vomiting with the cold fit, but not always; when the hot fit comes on there is a violent pain in the head, chiefly acroſs the forehead, throbbings of the temporal and carotid arteries; the eyes inflamed and watery; from the diſtention of their ſmall veſſels with blood, they have the ſenſation of being ſwollen, and give pain when moved; there is violent pain in the loins and calves of the legs; the face is fluſhed: the ſkin hot and dry, and when felt leaves a burning ſenſation at the fingers-end for ſeveral ſeconds; there is great proſtration of ſtrength, and generally anxiety and depreſſion of ſpirits; but in ſome in-

ſtances there is the greateſt unconcern and indifference as to their ſituation, from which circumſtance the patients were frequently loſt, by not reporting themſelves in time to be benefited by medicine. The tongue in general was white and moiſt, ſometimes perfectly clean, ſometimes the centre was white, the point and ſides clean, red, and ſhining; the thirſt in ſome caſes was very great, while ſome had no thirſt; the urine was high coloured; the bowels in general coſtive, but when they were not ſo, or when purgatives were given, the ſtools were uncommonly fetid; little reliance could be put on the pulſe as to ſtrength or quickneſs; in ſome it exceeded 130 in a minute, and in others it did not exceed 60 during the whole courſe of the diſeaſe. The eye was by much the beſt index to be guided by. Theſe were the ſymptoms of the firſt ſtage of the diſeaſe, which, if not relieved by nature, (which was very ſeldom the caſe) or by medicine, in twenty-four hours, the eyes became more ſuffuſed and dull, the heat of the ſkin continued, and all the other ſymptoms increaſed till about the end of the ſecond day, when a dull heavy pain was felt at the pit of the ſtomach, which was ſoon followed by an effort to vomit; the dullneſs of the eyes continuing to increaſe and aſſuming a dirty yellow glaſſy appearance, which peculiar appearance was always a fatal ſymptom. The patient now becomes very reſtleſs and delirious; the ſkin puts on a ſlight yellow tinge, beginning about the neck, and which in a few hours changes to a dull yellow livid colour; the irritability of the ſtomach continues, and every thing is rejected; the vomiting becomes conſtant; what is brought up is a dirty browniſh coloured liquor like the waſhings of Port wine bottles; it gets darker and thicker, and has now more the appearance of coffee-grounds; the deſire for cold water now comes on, the reſtleſſneſs increaſes, and frequent attempts are made to get out of bed; the delirium is generally expreſſed in mutterings, but ſometimes the convulſions are violent and the ravings frantick; the urine is ſecreted in ſmall quantity, and ſometimes all ſecretion is ſuſpended; inva-

riably a fatal ſymptom, and which in ſome inſtances occurs early in the fever. Caſes have occurred in which not a drop of urine has been paſſed during the whole courſe of the diſeaſe, yet theſe patients rarely complained of any inconvenience in conſequence. Petechiæ now appear about the breaſt and arm-pits, and then ſpread over the whole body; the vomiting continues, attended with hiccup, and a cold, greaſy, clammy moiſture on the ſkin, of a peculiar and cadaverous ſmell; the yellow colour of the countenance acquires a darker hue, and it is ſtrongly marked by the expreſſion of horror; ſometimes there are tremors and convulſive motions of the eyes and muſcles of the face or limbs; conſtant muttering; partial intervals of recollection, during which the patient ſeems ſenſible of his ſtate, and approaching diſſolution, although unable to expreſs himſelf in words; the extremities are cold; the pulſe ſinks; and on the third, fifth, or ſeventh day he dies; in ſome inſtances the whole train of ſymptoms were run through and terminated by death in thirty-ſix hours from the firſt attack.

This diſeaſe frequently ran quickly on to the putreſcent ſtate, when the tongue was covered with a dark brown cruſt; no thirſt; early delirium; the ſkin ſoft, of a dirty yellow colour, and in point of temperature below the natural ſtandard; profuſe cold clammy ſweats; very fœtid ſtools; tenſion of the abdomen; hæmorrhages of a very dark colour from the noſe, mouth, ſtomach, and anus; livid petechial eruption, black vomiting, hiccup, coma, death.

Sometimes the black vomiting and all the other ſymptoms ſubſided, the ſecretions and pulſe appeared natural, the ſtomach became perfectly retentive both of medicines and nouriſhment, the ſenſes perfectly collected, the ſpirits revived, and the patient appeared confident of recovery, and continued ſo for one or even two days; and when there was every reaſon to think all danger paſt, he ſuddenly, and when leaſt expected, ſunk,

and expired without a groan or ſtruggle. There is one thing to be obſerved, that when theſe illuſive appearances took place, the eye ſtill retained its inflamed and glaſſy appearance.

Med. and Phyſ. Jour.

THOMAS, *on the Gibraltar Fever.*

The diſeaſe is the Typhus gravior, or jail, or malignant fever.

Great preceding heats, a numerous population in confined ſituations, and ſmall houſes, inattention to proper cleanlineſs, and a free ventilation, a neglect of ſeparating the infected from the healthy, and of cutting off all unneceſſary communication between them, and no efficacious means having been early reſorted to for ſubduing or eradicating the contagion, this fever has now acquired a degree of virulence and malignity equal to the plague itſelf.

This diſorder is highly contagious; as all fevers of the typhoid kind are univerſally admitted to be capable of being propagated from one individual to another, either by contact or by inhaling the effluvia ariſing from the body of a diſeaſed perſon, or from linen clothes and other articles, ſtrongly impregnated with their miaſma.

Univerſal wearineſs, faintneſs, great depreſſion of ſtrength, ſevere pains in the back and head, particularly in the forehead and ſockets of the eyes; rigors ſucceeded by univerſal heat; thirſt, a parched tongue, ſomewhat covered with a brown fur; nauſea, with now and then a vomiting of bilious matter; coſtiveneſs, laborious reſpiration, accompanied with deep ſighing;

a ſmall but quick pulſe, of from 100 to 140 in a minute; ſlight wanderings, incoherency and coma, are the moſt uſual ſymptoms attendant on this fever; but in its very advanced ſtate, thoſe of putreſcency are obſervable. In ſome caſes, the patient will die on the fourth day.

By the following mode of treatment, I have never loſt a patient, where my advice has been applied for early.

If the perſon is incommoded by nauſea or vomiting, on his ſeizure with this fever, I would recommend the contents of the ſtomach to be evacuated, by directing him to drink a few cups of a ſtrong infuſion of camomile flowers, in preference to his taking an emetic, either of ipecacuanha or tartarized antimony; which ſeem inadviſeable, from the great irritability of this organ, which is apt ſpontaneouſly to enſue. If nauſea does not prevail, then the firſt ſtep to be adopted, ſhould be to clear the bowels of all feculent matter, by a ſufficient doſe of calomel; the operation of which may be rendered more certain and quick, by an addition of a few grains of coloquintida.

The bowels being cleanſed, I adviſe an immediate uſe of the muriatic acid. To adults, we may give ten or twelve drops at firſt, which doſe ſhould be repeated every four hours, guarded by four or five drops of the tincture of opium, to prevent the acid from acting unpleaſantly on the ſtomach and inteſtines. By degrees, we may increaſe the quantity of the acid in each doſe to eighteen or twenty drops, employing as a vehicle, about an ounce and a half of a ſtrong infuſion of columbo: the effect of mineral acids, but more particularly the muriatic, in all fevers of a malignant nature, is truly great; and from employing it in all ſuch caſes, my practice has been marked with the moſt decided ſucceſs. To increaſe the antiſeptic effect of this medicine, as well as to obviate debility, I always recommend a quantity

of wine, proportionable to the age of the patient, and the exigency of the caſe, to be adminiſtered at the ſame time. Bleeding ſhould never be uſed; as the Spaniſh phyſicians, at Malaga, ſacrificed moſt of their patients by it.

At a very early period of the diſeaſe, when the rigors have ceaſed, and the ſkin is become dry and hot, I ſtrongly adviſe a general affuſion of the whole body with cold water, as recommended by Dr. Currie, of Liverpool; and ſince practiſed by myſelf, and many other phyſicians, in innumerable inſtances, with the happieſt effect. This remedy may be repeated twice or thrice in the courſe of the twenty-four hours; but it ſhould be at thoſe periods when there is no great ſenſe of chillineſs preſent, when the heat of the body is ſteadily above the natural, and when there is no general or profuſe perſpiration. Where either the delicacy of the ſyſtem, the apprehenſions of the patient, or the prejudices of the bye-ſtanders, prevent the employment of cold affuſion, we muſt be content to ſubſtitute tepid affuſion for the more powerful remedy. The earlier in the diſeaſe that cold affuſion is employed, the more likely will it be to bring it to a favourable termination, ſhould it fail in arreſting its progreſs wholly.

Throughout the whole courſe of this malignant diſorder, the bowels ought to be kept open, by adminiſtering, as occaſion may require, the laxative of calomel, before recommended; but I do not think that mercury ſhould be given in ſufficient doſes to excite any degree of ſalivation, as has been practiſed in the yellow fever. Should further experience, however, ſanction this mode of proceeding, the proceſs will not interfere with the employment of tepid affuſion at the ſame time, although it might with that of the more powerful remedy.

As I am induced to ſuppoſe, that a high degree of delirium does not often attend on the fever in queſtion; and that the

patient is rather incommoded by muttering and ſlight wanderings, I do not heſitate to adviſe the giving a doſe of opium, proportioned to the age of the perſon, every evening at an early hour; which practice I generally adopt in all fevers of the typhoid claſs, and with very good effect.

Having pointed out the means which I think moſt likely to procure a favourable termination of the diſeaſe, I beg leave to add a few monitory cautions for ſuppreſſing its further propagation, and deſtroying its contagion. To anſwer the firſt of theſe intentions, it will be neceſſary to keep the mind cheerful, and as free from all apprehenſions and anxiety as poſſible; and carefully to avoid intemperance, ſenſuality, great fatigue, profuſe evacuations, a poor vapid diet, or whatever elſe may tend to produce debility. By ſtrengthening the bodies of men, it is ſuppoſed they will thereby be enabled to reſiſt contagion the better; I would, therefore, recommend cold bathing every morning, with two or three doſes daily of ſome tonic medicine; ſuch as the Peruvian bark. If wine is uſed at all, it ſhould be uſed ſparingly; the leſs perhaps the better.

Nurſes, and medical attendants, who are immediately expoſed to the contagion, ſhould be careful to come into immediate contact with the diſeaſed as ſeldom as poſſible; and they ought never to inhale the breath of the ſick, nor place themſelves in ſuch a direction, as that a ſtream of air can waft the miaſms or effluvia towards them. Poſſibly, it might be advantageous to anoint the hands with ſweet oil, as has been practiſed, it is ſaid, in the plague, with much advantage.

For the purpoſe of deſtroying the contagion, the ſick ſhould be removed to Lazarettos; and theſe muſt be guarded, ſo as to cut off all unneceſſary communications with thoſe in health. The atmoſphere ſurrounding the infected, ſhould be purified as much as poſſible, by a ſtrict attention to cleanlineſs, a free ven-

tilation, and frequent fumigations with the nitrous or muriatic acid, in the form of gas. All ſubſtances capable of being impregnated with the effluvia, and of vitiating the atmoſphere, ſhould be ſpeedily removed from the apartments of the ſick, to ſituations where the healthy cannot ſuffer by them, and where they will be made to undergo proper purification.

It does not ſignify which of the acids we employ, as they are both equally efficacious in deſtroying every ſpecies of contagion. If a preference be given to the muriatic, place a ſaucer, or any other earthen veſſel, containing about half a pound of common ſalt, in the apartment of the ſick, and pour over it, from time to time, a ſufficient quantity of vitriolic acid, to moiſten the whole of the ſalt. If the nitrous is preferred, put half an ounce of vitriolic acid into a cup, ſaucer, or glaſs, and add, from time to time, ſome nitre reduced to powder. In rooms from fifteen to twenty feet in dimenſions, one veſſel will be ſufficient; but in larger ones, two or more will be requiſite; and when the air is foul, and peculiarly offenſive, it will be adviſeable to apply a ſlight degree of heat under the veſſels, in order to extricate a larger quantity of vapour.

Europeans of a full plethoric habit of body, who may be obliged to go out to Gibraltar during the prevalence of this malignant fever, will act prudently in taking now and then, during the paſſage, ſome cooling laxative medicine; and in undergoing a ſlight mercurial courſe, ſo as to produce an alterative effect. The ſame plan was found to be a good preventive againſt any attack of the yellow fever.

July 13, 1805.

Med. and Phyſ. Jour.

BISHOPP'S *Caſe of Optical Illuſion from Hyſteria.*

A ſingle woman of delicate frame, aged 22, had been much afflicted with hyſteria more than three months. The paroxyſms of the diſeaſe were often violent, accompanied frequently, but not conſtantly, with temporary delirium: ſo that the diſeaſe appeared to be well marked, never being preceded by any local irritation, of which the patient was conſcious. During ſome of theſe attacks ſhe was occaſionally ſo much in poſſeſſion of the faculties of the mind and of ſpeech, as to be able to reply appoſitely to queſtions put to her by the attendants; but of theſe converſations ſhe retained no recollection whatever upon the termination of the paroxyſm. Certain paroxyſms were productive of convulſions ſo violent as to require coercion; while others were attended merely with mild delirium. In the latter, impreſſions made by ſurrounding objects upon the retina, were tranſmitted to the brain, as uſual inverted, and were repreſented to the mind in that poſition ſo forcibly, that the young woman could not reſiſt the impulſe ſhe felt to place the chairs in the room horizontally, leſt they ſhould fall, finding they would not ſtand on the other end. She expreſſed her ſurpriſe, and laughed heartily, on ſeeing the attendants all ſtanding, as ſhe thought, upon their heads. The illuſion immediately ſubſided with the fit, both laſting about an hour generally. This, therefore, was not a ſingular occurrence in one particular fit, but recurred repeatedly. The whole diſeaſe yielded, at length, under my care, to the ordinary treatment of hyſteria, no defect either in the organ of viſion, or in the faculties of the mind, remaining.

Med. and Phys. Jour.

WHITLAM, *on the Uſe of Conium Maculatum.*

As the greateſt diſſimilarity of opinion exiſts amongſt eminent profeſſional characters, reſpecting the curative powers of ſeveral active medical agents; it might be of conſiderable advantage to practitioners in general, were the cauſes of this difference of opinion ſucceſsfully inveſtigated.

I flatter myſelf, that with regard to ſome of the remedies above alluded to, my reſearches have not been altogether without effect. Having frequently experienced the moſt beneficial reſults from the uſe of conium maculatum in preternatural enlargements of various parts of the human body; and as this herb has been as much recommended by ſome, as decried by others of equal rank and reſpectability as phyſicians, I make choice of it as an example.

Conium is an herb which requires not the chemiſt's art. Its virtues are concentrated in the expreſſed juice of its leaves, or by an infuſion of the herb in boiling water. Thus prepared, it will be found capable of exerting all its energy; whether uſed internally, or externally applied. Whoever uſes it in either of theſe forms, will never afterwards be inclined to truſt to the extract of the plant; which is always diveſted of the volatile parts, on which its diſcutient property ſeems to depend. But the great ſource of error in regard to this vegetable, which has frequently deceived thoſe who preſcribed it, is the ignorance of the people employed to gather it. Thoſe unacquainted with its botanical characters, frequently get the chaerophyllum inſtead of the conium. This has been remarked by the ingenious tranſlator of the Edinburgh New Diſpenſatory. When this miſtake takes place, it ſufficiently accounts for the apparent

want of efficacy in the plant. Let thoſe therefore, who have deſpiſed this active remedy, only procure it genuine; let them uſe it in its ſimpleſt forms, and perſevere a few weeks in its uſe; and then, if they find it inefficacious, let them report it to the medical world.

The following caſe, in which it produced the moſt aſtoniſhing effects, will ſerve as an additional proof of its great powers.

W. P. a perſon between forty and fifty years of age, formerly of an extremely robuſt habit, capable of bearing the greateſt exceſſes and fatigues, had the venereal diſeaſe repeatedly. The ſymptoms were in general removed by draſtic remedies; principally of his own preſcribing. The laſt time, he caught the diſorder in the form of gonorrhœa virulenta. He took calomel mixed with ſome purgative pill. The diſcharge from the urethra ceaſed, and has not ſince returned. In June laſt, it being ſeveral months after he was apparently cured, his throat became ulcerated, and his ſkin was partially covered with venereal blotches. He applied to me, and the above named ſymptoms were removed by mild mercurial medicines and the decoction of the woods. One of his teſticles now began to ſwell; that enlargement was ſpeedily removed by the ordinary means. He then had pains ſimilar to thoſe cauſed by acute rheumatiſm; theſe alternated with ſoreneſs of the throat and blotches on the ſkin. In October, the diſeaſe ſeemed nearly taken away. In January, his teſticle began again to ſwell; and together with the ſpermatic cord, &c. it became more than four times its original ſize. The parts were extremely hard, and he had ſo much pain as to preclude the poſſibility of taking any repoſe, although opium was given in large doſes. An eminent ſurgeon was called in. Diſcutient topical remedies were uſed, and mercurials and anodynes given internally.

After a conſiderable time, no advantage was gained. Green hemlock was then with difficulty procured. A ſtrong fomentation was made with the roots. It was applied ſeveral times a day; and after each fomentation, a poultice made of bread-crumbs, water, and the young ſhoots of the herb. In leſs than a week he paſſed comfortable nights. The ſwelling began to abate. The remedy was uſed ſix weeks. At this time the parts ſeem in their natural ſtate, and no ſymptom of lues has appeared, unleſs we ſuppoſe the pain he has in his joints to ariſe from latent venereal virus. This may be the caſe; but if we judge from the ſymptoms, dolores artuum, muſculorum tractum ſequens; ſub motu praeſertim aucti; artus debiles, rigidi; it muſt be called rheumatiſm.

Med. and Phys. Jour.

Weston's *Caſe of Fatal Treatment of Tinea Capitis.*

Thomas Mann, aged eight years, who had long been afflicted with tinea capitis, which had obſtinately reſiſted all the common remedies, had on Saturday, Auguſt 3, the expreſſed juice of tobacco* applied over his head, by his father, who had been recommended to do ſo by a neighbour. The application was finiſhed at five minutes before two o'clock, P. M. and he almoſt immediately afterwards complained of giddineſs and loſs of ſight, ſo that his father ſmilingly ſaid, "the boy is drunk." He ſoon after became ſick, vomited frequently and in large quantity; he had alſo inclination to go to ſtool, but

* The dried tobacco leaf is wetted ſufficiently to damp it, it is then put between iron plates, and preſſed, by which means the juice is procured.

could not evacuate; his limbs tottered, his face was pale, and covered with a cold ſweat; his mother aſſiſted him up ſtairs to bed, into which he had no ſooner entered than he had an involuntary diſcharge of fæces. His countenance now appeared ſunk; his limbs were motionleſs excepting that now and then his legs were drawn towards his belly convulſively. He ſpoke but ſeldom; but when he did utter any thing, it was to complain of an extreme degree of thirſt and of violent pain in his bowels, which ſeemed diſtended with flatus. Still he vomited frequently, and the whole body was bedewed with a cold ſweat; he gradually became weaker, and at half paſt five o'clock he expired, which was three hours and a half after the application of the poiſon.

Dissection.

Head. The pericranium ſeparated more eaſily than uſual from the cranium, and ſome watery fluid was interpoſed between it and the ſkull. The membranes of the brain were healthy, except that there appeared to have been ſome ſlight effuſion of lymph between the tunica arachnoides and pia mater; but this did not ſeem to have happened lately. The ventricles did not contain more than their proper quantity of water. The pineal gland had an hydatid in it.

The viſcera of the abdomen were all in a natural ſtate, excepting the ſmall inteſtines, which appeared ſomewhat more loaded with blood than uſual; all the viſcera of the cheſt were perfectly ſound; the blood in the heart was principally in a fluid ſtate, but there was a coagulum in the right ventricle.

It appeared therefore by diſſection that this boy's death was not attributable to any organic defect, but was to be aſcribed

entirely to the operation of an active vegetable poiſon upon the nervous ſyſtem.

Several inſtances have been recorded of ſimilar effects being produced by the unguarded uſe of this ſubſtance as an injection, and ſuch caſes cannot be too generally known, or too frequently related, as a knowledge of theſe facts will ſerve to put medical men upon their guard in uſing a remedy, which, without proper attention, is likely to deſtroy the life it is intended it ſhould preſerve.

Med. and Phys. Jour.

Diagnoſis of Meaſles and Scarlatina.

Although the meaſles and ſcarlatina are now known to ariſe from different modes of contagion, yet ſo many authors have conſidered them as varieties of the ſame diſeaſe, that it may be allowable in this place to recapitulate their diagnoſtic characters.

1ſt. The efflorescence in ſcarlatina generally appears on the ſecond day of fever; in the meaſles it is ſeldom viſible till the fourth.

2dly. It is much more full and ſpreading in the former diſeaſe than the latter, and conſiſts of innumerable points and ſpecks under the cuticle, intermixed with minute papulæ, in ſome caſes forming continuous, irregular patches, in others coaleſcing into an uniform fluſh over a conſiderable extent of ſurface. In the meaſles the raſh is compoſed of circular dots

partly diſtinct, partly ſet in ſmall cluſters or patches, and a little elevated, ſo as to give the ſenſation of roughneſs when a finger is paſſed over them. Theſe patches are ſeldom confluent, but form a number of creſcents, or ſegments of circles, with large intervening portions of cuticle, which retain their uſual appearance. The colour of the raſh is alſo different in the two diſeaſes, being a vivid red in the ſcarlatina, like that of a boiled lobſter's ſhell; but in the meaſles a dark red, with nearly the hue of a raſberry.

3dly. During their febrile ſtage, the meaſles are diſtinguiſhed by an obſtinate harſh cough, forcing up, in repeated paroxyſms, a tough, acrimonious phlegm,—by an inflammation of the eyes and eye-lids, with great ſenſibility to light,—by an increaſed diſcharge from the lachrymal gland, ſneezing, &c. The ſcarlatina is frequently attended with a cough, alſo with redneſs of the eyes from an extenſion of the raſh to the tunica albuginea, circumſtances which render the diſtinction between this complaint and meaſles particularly difficult, if other ſymptoms be not clear and deciſive. On minute obſervation, however, it will be generally, perhaps always, found, that the cough in ſcarlatina is ſhort and irritating, without expectoration; that the redneſs of the eye is not attended with intolerance of light, that the ciliary glands are not affected; and that, although the eyes appear ſhining and watery, they never overflow.

4th. Moſt writers on the ſubject, in diſtinguiſhing ſcarlatina from meaſles, and other eruptive complaints, obſerve that there is a peculiar ſenſation of anxiety, depreſſion, and faintneſs, in all caſes of it which are attended with fever.

5th. When the raſh appears on the third or fourth day, being ſcattered, and of a dark ſhade of colour, as frequently happens in the two latter varieties of ſcarlatina, the diſeaſe may be

diſtinguiſhed from meaſles by the appearances in the throat, by the rigidity of the muſcles of the neck, and other peculiar ſymptoms hereafter to be deſcribed.

WILLAN, *on Cutaneous Diſeaſes, Ord.* 3. *part* 1.

Preparation of the true Copal Varniſh.

Take two parts of gum-copal, reduced to a fine powder, and waſhed repeatedly in water to free it from the woody fibres; introduce it into a flaſk, and pour over it four parts of pure oil of roſemary; digeſt the mixture in a gentle heat for three days, or longer, after which add as much highly rectified ſpirit of wine as is deemed neceſſary, and ſuffer it to remain undiſturbed until the impurities ſubſide; then decant the varniſh.

Med. and Phys. Jour.

PROUST, *on the Properties of Potaſh.*

M. Prouſt ſays, that the ſulphate of copper and the nitrate, with a minimum of acid, verdigris, the native and artificial muriates, cendre blue, the carbonate, &c. all yield to potaſh both their acids and hydrites. Potaſh, tinged with hydrate of copper, throws down the hydrate on being mixed with water, and all the oxydo-alkaline ſolutions follow the ſame law. Slaked lime, ſhaken in a bottle with carbonate of copper and water, produces a fine cendre blue in about twelve hours; after which, as lime deprives potaſh of its carbonic acid entirely, and potaſh is one of the ſtrongeſt attractors of acids known, it is impoſſi-

ble that it ſhould not have the ſame power over an oxyde and that oxyde poſſeſſed of the weakeſt attraction of any.

Med. and Phys. Jour.

Naphtha Aceti.

Dr. Buchholz has improved the preparation of the naphtha aceti, in the following manner. Upon ſixteen ounces of well dried and powdered acetated lead, a mixture of ſix ounces of concentrated acid of brimſtone, and nine ounces of ſpirit of wine, is to be poured, and by a mild fire the quantity of nine or ten ounces liquid to be drawn over. If this liquid be mixed afterwards with the third part of lime-water, nearly ſix ounces of æther aceti will be gained. When proper care has been taken, that the liquid which is drawn over, does not contain any acetated lead, the æther may be uſed without any further preparation. Should this not be the caſe, the æther muſt again be rectified.

Med. and Phys. Jour.

An Account of a Fifteen Years Pregnancy, where the Child was contained in the Urinary Bladder; by Profeſſor JOSEPHI, *of Roſtock.*

A Woman, 47 years of age, tall and well made, and in good health from her infancy, after having been once well delivered, became pregnant the ſecond time. A few weeks after conception ſhe had her menſes, and this continued, a few intervals excepted, till the ſeventeenth week of her pregnancy. During the firſt period ſhe complained much of ſickneſs, vomiting, and

ſometimes obſtruction of the body. At the uſual time ſhe felt the movement of the child very plainly. After the firſt half of the pregnancy was paſſed, ſhe became affected with violent colic, and moſt excruciating pains, during which ſhe was thrown upon a bed by a woman. Since this time ſhe conſtantly felt, on the right ſide, at the annulus abdominalis, a very diſagreeable ſenſation whenever the child moved, as well as during the period of its growth. Sometimes ſhe experienced ſpaſtic conſtrictions almoſt to her toes. In the courſe of the thirty-ſeventh week, towards evening, ſhe complained of violent pains, with ſhiverings, and a ſenſation as if the bowels were drawn downwards. The abdomen was much ſwelled, and the pains riſing to a moſt excruciating height, ended at laſt in a palſy of the right leg, which continued three weeks. After this time ſhe no longer felt the movement of the child, nor has ſhe ever been well. Her breaſts were filled with milk.

Towards the fifteenth month, a diſcharge of corrupted or putrid blood was obſerved from the genitals. A month after, her menſes again appeared, and laſted from this time during her life, yet not quite regularly. The general ſtate of her health occaſionally improved, and excepting frequent pains in her bowels, and a preſſure on the urinary bladder, ſhe felt herſelf tolerably well. In this ſtate ſhe remained nine years, when the direful cataſtrophe began. After having experienced ſeveral violent frights, ſhe had a ſevere fit of ſhivering and colic, which affected the whole body, and terminated in pains like thoſe of women in labour; theſe continued ſeveral hours; and the next morning the patient found herſelf affected with the ague, which laſted a quarter of a year. From this period ſhe ſuffered from a painful iſchuria, with violent ſpaſms in the abdomen, and ſeldom experienced even a few minutes eaſineſs. Being conſtantly under the neceſſity of making water, ſhe was obliged to reſt on her knees, or to be in a forward bent poſ-

ture; the quantity of urine was ſmall, reſembling a whitiſh purulent matter, and often mixed with pieces of a thick jelly.

After three years had elapſed, ſhe obſerved a hard body in her urethra; and at the expiration of a few months ſhe evacuated with the urine a greyiſh ſtone, of the ſize of a horſe bean, which gave her ſome relief. Conſulting with her phyſician, he adminiſtered various medicines; in conſequence of which, a bone, by appearance the tibia of a child, paſſed off with the urine, under violent agonies. A few days after another ſtone came off, and a piece of the bones of the head. In this manner ſhe brought away by degrees ninety-four ſtones of different ſize, the largeſt reſembling a bean; they were differently formed, but all of a white colour; likewiſe a number of bones of the head, ſome vertebræ, ſix teeth, part of the fibula, and twenty-one flat pieces of bone.

In about a year after, a bone ſtopped the mouth of the urethra, and cauſed almoſt inſupportable pain; her phyſician therefore reſolved to make an inciſion in the urethra, after which he extracted the lower jaw bone, and the patient obtained ſome relief. But all her ſufferings increaſing from time to time, ſhe went to Roſtock, and Profeſſor Joſephi was conſulted. All the phyſicians reſiding at this place were called in, and they agreed that the child was contained in the urinary bladder, and nothing but an operation could ſave the patient. It was, therefore, reſolved that by making an inciſion in the urethra and the neck of the bladder, the patient might be delivered.

By an exact examination, the abdomen was not at all diſtended, only cloſe above the bones of the pubis, and more toward the right ſide, the hard parts of the child were very plainly felt; and by preſſing this part the patient always experienced very ſenſible pains. The genitals were well formed, only excoriat-

ed by urine. The pelvis was well ſhaped, the vagina more contracted, and the uterus ſmall, empty, of its natural form, and drawn up very high. The bladder was much extended, and the hard parts it contained could be plainly felt. The urethra was likewiſe extended, and at the orifice ſwelled and tumid. The colour of the patient was pale and cachectic, and her ſufferings beyond deſcription. Always lying on her knees, ſhe never enjoyed more than a few minutes reſt or ſleep; her appetite was pretty good.

In order to afford the patient ſome relief, the external application of the volatile ointment with opium, and lenient warm cataplaſms, were ordered. Inwardly, the extract of henbane and the laudanum liquidum Sydenhami. With the aſſiſtance of a catheter the urine was drawn off with difficulty: alſo lenient glyſters were applied. Every trial to take away the different parts contained in the bladder with inſtruments was fruitleſs. The inſtrument always ſlipped off, and it was impoſſible to catch any of the parts; beſides, the application of the inſtrument always increaſed the ſpaſtic affections. No other reſource was left, but to make an inciſion, and to try by this mode to obtain the extraction of the parts.

It was thought adviſable to make the inciſion in the urethra and the neck of the bladder, but Profeſſor Joſephi preferred the inciſion above the os pubis. The operation was performed in the preſence of five phyſicians and ſeveral ſurgeons.

The patient was previouſly ordered to take an opening glyſter, and to drink freely of barley water. During the operation ſhe was placed horizontally upon beds on a table, the head a little elevated, the knees rather bent and diſtended, the operator ſtanding between them. A cloſed catheter was applied in the bladder. The inciſion was made above the arcus oſſis pubis, towards and through the linea alba, about three inches

long, one inch below the adheſion of the peritonæum; the knife was thrown in the bladder, ſo that the point of the inſtrument and the finger of the left hand entered together. The bladder was not as in the natural ſtate, membranous and thin, but thick, hard, and fleſhy. At the opening the urine paſſed out; the catheter was opened directly, and the inciſion in the bladder dilated about an inch long. The Doctor found the whole bladder entirely filled with hard and pointed pieces of bone, beſides a number of ſoft parts. The inciſion therefore was about an inch more dilated, and one hundred and twelve pieces of bone, partly entire, and partly corroded, were taken out; beſides, twenty pieces of ſtony concrements, ſome cartilages, part of the ſkull and face, and the bowels, of a dark blue colour, adhering to the omentum and meſenterium. The femoral bones were about three inches and a quarter long, other bones were covered with a calcareous concrement, and ſeveral of them adhered ſo firmly to the inner coat of the bladder, that they could not be taken away but by force. The inner ſurface of the bladder was rough, thick, uneven, ſpongy, and totally different from its natural texture. At the bottom of the bladder an opening was to be felt, and in putting the fingers through it touched the bowels of the patient.

During the operation the unfortunate woman remained very quiet, notwithſtanding violent ſpaſms in the abdomen commenced, during which the bladder was contracted, like the uterus in labour. The whole operation was performed in forty-two minutes, and ſcarcely four ounces of blood were loſt. The dreſſing conſiſted of ung. ſimplex ſpread upon lint, and a ſoft compreſſion faſtened with the T bandage; the wound of the integuments was contracted with ſtrips of adheſive plaſter.

After the operation the patient did pretty well; ſhe complained of no particular pain, and deſired to look at the different contents taken from her. She took ſome water-ſoup, and

gruel was ordered for her drink. In the afternoon ſhe complained of cold, and a painful ſenſation in the wound, more towards the right ſide; her pulſe was from 85 to 95, quick, and ſpaſtic, and the whole body covered with a cold perſpiration. A ſedative ointment was applied to the body, and a ſaline draught with the addition of opium preſcribed. The pain was diminiſhed, as well as the ſpaſms, and ſhe enjoyed ſome ſleep at intervals. Through the catheter ſome bloody urine went off. During the night ſhe ſlept about an hour, and on awaking, complained of colic and hiccup.

The next morning her pulſe was 90, and very thin; the hiccup ſometimes was ſo violent that ſhe was thrown upwards. The body was uniformly warm, the abdomen not painful nor hard. She perſpired a little; the urine went through the catheter, but the body was conſtipated, and different glyſters were applied without any effect. At noon ſhe complained of a preſſure at the ſcrobiculum cordis; the pulſe became very quick and ſmall, and ſhe vomited a good deal of ſlime. In the evening ſhe became very weak, was always ſlumbering, and ſometimes convulſed. An emulſion with camphor was preſcribed, and glyſters of valerian, &c.

On the third day, at five o'clock in the morning, the body became looſe with moſt fœtid dejections. Her face was entirely altered, and every ſymptom of approaching death appearing; ſhe expired the ſame morning at eight o'clock.

The next day the ſection was made. The abdomen was much diſtended and hard; the wound ſhewed a good appearance, and likewiſe the genitals; the omentum and meſenterium were without fat, and empty of blood, but no ſign of inflammation or gangrene. The liver was of an aſh colour with ſeveral ſpots. The veſicula fellis much extended with gall and ſtony concrements. There was no blood extravaſated, nor

any urine in the cavum abdominis, but about four ounces of a yellowiſh, thin, and bad-ſmelling matter was contained in the pelvis, towards the right ſide. The wound in the bladder was about two inches, and much diſtended. The whole bladder had a thin, ſpongy, and in many parts cartilaginous texture, with a great many ſpongy excreſcences; at the upper part a hole was found, about the ſize of a ſix-pence, hard and callous. Towards the right ſide a bag of three inches was obſerved, adhering to the bladder, and containing part of the bowels (inteſtina tenuia). By examining theſe parts minutely, another opening at the other ſide of the bladder was detected, about two inches and a half in diameter. Through this hole part of the bowels paſſed into the bladder; it connected with the peritoneum, which formed a ſeparate bag in the bladder, the ſurface of which was ſmooth and covered with a purulent matter. The uterus was quite natural, alſo the tuba and the ovarium on the left ſide; at the right the tube was wanting, only a remaining part adhered firmly to the bladder. The right ovarium was likewiſe deficient, only the veſſels of this part remaining. All the other parts of the abdomen were ſound, and in their natural ſtate. Profeſſor Joſephi draws this concluſion, that, at the beginning, the pregnancy had taken place in the right ovarium; that the pieces of jelly, which the patient evacuated with the urine, were the diſſolved ſoft parts of the fœtus; and that the ſtony concrements were formed from the diſſolved bones, according to chemical analyſis, and conſiſted entirely of phoſphat of lime.

Med. and Phys. Jour.

A new Theory of the Effects of Medicines.

Dr. Raſori, of Italy, having examined the modern theory, according to which all medical and dietetical ſubſtances poſſeſs

the power of ſtimulating or inciting the body, found this doctrine too narrowly limited, and that there are certain ſubſtances which are debilitating in a very high degree, without previouſly inciting the body in any particular manner. The Doctor calls theſe, *contra ſtimulantia directa*. This aſſertion he proves by his obſervations on the effects of the lauro-ceraſus. All the animals to whom a large doſe of the laurel water was given, became ſuddenly debilitated, nearly to death. By the application of ſtimulating medicines they were again reſtored. Theſe obſervations being made upon animals only, were neglected; but ſome time after, Dr. Borda, an eminent practitioner in Lombardy, preſcribed the water of lauroceraſus for his patients, and found the ſame experiments confirmed. Too ſtrong a doſe of the water brought on a ſtate of palſy, and the moſt volatile ſtimuli were required. Dr. Borda afterwards examined a great number of drugs, the whole ſtock of which he ranks under two claſſes, viz. Stimulantia and Contra-ſtimulantia. To this laſt claſs belong, beſides the lauroceraſus, the bitter almonds, nux vomica, digitalis purpurea, ſolanum nigrum and dulcamara, gratiola, ſcilla, antimonialia, the neutral ſalts, all the acids, and perhaps mercury.

Med. and Phys. Jour.

New Thermometer.

A new thermometer has been invented for regiſtering the higheſt and loweſt temperatures in the abſence of the obſerver, which is ſaid to be a more ſimple, as well as a leſs expenſive, inſtrument than Lix's (Quere? Six's) thermometer. It conſiſts in two thermometers, one mercurial, and the other of alcohol, having their ſtems horizontal. The former has for its index a piece of magnetical ſteel wire, and the latter a minute thread of glaſs, having its two ends formed into ſmall knobs by fuſion in the flame of a candle. The magnetical bit of wire lies in the vacant

ſpace of the mercurial thermometer, and is puſhed forward by the mercury whenever the temperature riſes and puſhes that fluid againſt it; but when the temperature falls, and the fluid retires, this index is left behind, and ſhews the *maximum*. The other index, or bit of glaſs, lies in the tube of the ſpirit-thermometer immerſed in the alcohol, and when the ſpirit retires by the depreſſion of temperature, the index is carried along with it in apparent contact with its interior ſurface; but on increaſe of temperature the ſpirit goes forward and leaves the index behind, which therefore ſhews the *minimum* of temperature ſince it was ſet. The ſteel index is eaſily brought to the mercury by applying a magnet on the outſide of the tube, and the other is properly placed at the end of the column of alcohol by inclining the whole inſtrument.

Med. and Phys. Jour.

Balſamic Vinegar.

The following is the method adopted in Paris of making balſamic and anti-putrid vinegar:—Take the beſt white-wine vinegar, a handful of lavender, leaves and flowers; the ſame quantity of ſage, leaves and flowers, hyſſop, thyme, balm, ſavory; a good handful of ſalt, and two heads of garlic; infuſe theſe in the vinegar a fortnight or three weeks; the longer the better; and then it is found to be an excellent remedy for wounds, for ſpaſms and ſuffocation. By rubbing the hands and temples with it, a perſon may go into foul air with great ſafety.

Med. and Phys. Jour.

Fumigation.

A correſpondent, in a letter to the Editors, obſerves, "A writer in the laſt Medical Review, under the article of Smyth

verſus Chaptal, makes the following unqualified aſſertion—'There is no evidence that any perſon had ever employed the mineral gaſes for deſtroying contagion in the apartments of the ſick, prior to the uſe of them by Dr. Smyth, at Wincheſter, in the year 1780.' How far this aſſertion may be correct, I ſhall leave to be determined by the following quotation from a book publiſhed, above ſixty years ago, by Gaubius.

"Vapor antiloimicus: ℞ Acet. vin. vulg. lbj: ſal. marin: nitri: ol. vitriol. vulg. aa. lbſs: aq. puræ. lbj. M.

"Immiſſa, in ollam fictilem vitreatam, repandam, ſuper pruinas repoſita, in limine domus aut *cubiculi* leniter evaporent.

Med. and Phys. Jour.

An account of a Fœtus found in the Abdomen of a Woman eighty-three Years of Age; by J. GRIVEL, *Accoucheur in the Hoſpital of Villeneuve at Dreſden, as communicated in the following Letter to* DR. PEARSON, *Leiceſter Square.**

"SIR,

"I take the liberty of addreſſing to you a few lines, to deſire you to accept the two drawings which I have ſent, done as faithfully as my poor talent in the art enables me. You muſt know that we are in no want of bodies at Dreſden, having, beſides thoſe of the hoſpital, all thoſe of murderers and ſuicides. We lately received the body of Maria Walther, born at Meiſſen, widow of a Pruſſian huſſar, who had attended in ſeveral campaigns in the capacity of a ſutler to Frederick II. King of Pruſſia's army. She has been kept in the Lazarus Hoſpital ſince 1794 through charity, on account of her great age only, being in perfect health, and having never complained

* From the Edinburgh Journal, No. 5.

of any pain in the belly. She talked of nothing but of the wars in her former days, and aſſiſted as a nurſe to the ſick in the Lazarus Hoſpital till within two hours of her death. On opening her body, the young ſurgeon who was employed was ſurpriſed to find a child in an indurated ſtate, and blended, as it were, with the inteſtines. It appeared as repreſented in the drawing, No. 1. A more diſtinct view appeared after waſhing the parts, and as repreſented in the drawing, No. 2. We conſider this as a moſt rare caſe, the woman being *eighty-three years of age*, as was proved by an extract of her baptiſm. I wiſhed much to have purchaſed for you the original; but I was unable, it being reſerved for the cabinet of the Elector. I have the honour of recommending myſelf to your protection, and of being your very humble ſervant.

J. GRIVEL.

"P. S. We have a girl *(une fille nine*)* now in the Hoſpital, who is much deformed, and far advanced in pregnancy. Her pelvis is not two inches, Engliſh, wide. We ſhall be obliged to perform the Cæſarian operation. This is the ſecond of this deſcription which we have had at the hoſpital within theſe eighteen months."

Dreſden, June 28, 1805.

"* *Nine* is not a claſſical word in the French language, in which the letter was written, but we underſtand it to be a cant term uſed in ſome hoſpitals on the Continent, for thoſe caſes of deformity in the female, in which parturition muſt be difficult, if not impoſſible.—*Edinburgh Editors*."

As this is a matter of ſome importance, we recommend a more particular enquiry into the true import of the word, in which we ſhall not fail to add our diligence. At preſent we only take the liberty to remark, that *naine* is a legitimate word in French, meaning only a female dwarf, and as it is applied according to the idiom of the language to both ſexes, cannot refer to parturition. It is poſſible, though not likely, that the uncertainty of manuſcript reading may have cauſed this doubt; but whether this is the caſe or not, moſt Engliſh readers will wiſh to be ſatisfied on the ſubject.—*Engliſh Editors*.

Remarks by Dr. Pearson.

"1. Although the above ſtatement by no means contains a relation of many particulars, which a well-informed perſon would deſire, and although, from the want of a more full account, it will be impoſſible to make many inferences, which otherwiſe could have been eſtabliſhed, there is no juſt reaſon to queſtion the fact that a fœtus was found in the abdomen as deſcribed.

"2. I have heard, within the laſt ſix months, of three ſimilar caſes, viz. one which fell under the obſervation of a very experienced phyſician of the firſt reputation in Glouceſterſhire. I have been favoured with a ſight of the drawings of this caſe, and I know it is deſtined for publication: it will, there is no doubt, be given very correctly, and will contain a minute hiſtory of all the particulars belonging to ſo extraordinary an occurrence. A ſecond inſtance of the ſame ſort fell under the obſervation of a phyſician at Glaſgow; and, as I was informed by a young phyſician, my pupil, in Edinburgh, it was ſo ſimilar to the Glouceſterſhire caſe, that, while I was relating it in a lecture the laſt winter, he ſuppoſed it was the ſame as that with which he was acquainted at Glaſgow. A third inſtance was communicated to me yeſterday at Woolwich by Dr. Rollo: it occurred in Ireland, of which an account had been ſeen a few days ago in a letter.

"3. Even if I had leiſure, I ſhould not be diſpoſed to make a number of remarks, and endeavour to explain the nature of theſe occurrences, there being ſo many profeſſional men better qualified. However, one queſtion I ſhall venture to propoſe, in order to obtain from others a ſatisfactory explanation. What are the powers or circumſtances which prevent the fœtus from undergoing the compoſitions and decompoſitions uſual

in the proceſs of putrefaction? Three different reaſons may be aſſigned.

"1. That the fœtus is in a dead ſtate; but the excluſion of air containing oxygen gas is the circumſtance which prevents putrefaction.

"2. That the fœtus is in a dead ſtate; but the agency of living ſurfaces in contact with it, counteracts the putrefactive proceſs.

"3. That the vitality of the fœtus is not extinguiſhed, although the mode of agency of the principle of life is different from what is uſual.

"The firſt ſuppoſition does not appear to me ſatisfactory, becauſe air certainly does permeate through every part of the animal economy; and it is common for dead animal matter to become putrid in many cavities to which air has not a more free acceſs than into the cavity of the abdomen. Alſo out of the animal body, we know that animal fluids, kept in glaſs veſſels quite full, and hermetically ſealed, afford new compoſitions by the play of chemical attraction.

"The ſecond ſuppoſition may, perhaps, be thought not altogether improbable, being ſupported by analogy. So the fluid in dropſies, and in many other diſeaſes, remains for months, and even years, in cavities, without alteration in its compoſition, ſeemingly owing to its being in contact with living matter. Generally, however, when lifeleſs animal matter is expoſed to living ſurfaces, and confined ſo as to be much excluded from the air, it is either abſorbed, or it excites the formation of pus, or it putrefies. The late Mr. Pierce Smith, my moſt ingenious pupil, wrote a paper, which was read at the Royal

Society about the year 1795, containing many experiments to ſhow, that when fleſh of various ſorts was inſerted into the cavities of wounds purpoſely inflicted, it was abſorbed, if in a certain quantity, and if the animal was in vigorous health; but if the quantity was too great, then purulent matter was formed, and, in ſome caſes, the fleſh introduced became putrid.

"The third ſuppoſition, viz. that vitality remains, appears moſt reaſonable, becauſe certain actions go on, which produce changes only known in living bodies; ſuch as the oſſification of a great part of the fœtus; the proceſs of induration; the thickening of parts, and perhaps adheſion, from the communication of new veſſels between the confined extraneous body, and the cavity in which it is contained."

We heartily agree with Dr. Pearſon in the probability of his correſpondent's caſe. By the queſtions propoſed, "what are the power or circumſtances which prevent the fœtus from undergoing the compoſitions and decompoſitions uſual in the proceſs of putrefaction? We apprehend our author means only to inquire what laws have hitherto been diſcovered in dead or living animal matter, which may account for the fœtus continuing ſo long within the cavity of the abdomen, without putrefaction?" We are quite as ready as he is to give up his firſt propoſition, though we ſhould have wiſhed to be informed further of the permeability of all the living parts of the animal economy to air in an elaſtic ſtate, if ſuch is the meaning of our author, and alſo of thoſe cavities in which it is common for dead animal matter to become putrid?

The ſecond propoſition, like many others, which are gradually becoming current without any recollection of the ſource from which we derive it, was long ſince taught by Mr. Hunter;

nor do we find it contradicted by the experiments of Dr. Pearſon's ingenious pupil. That animal matter, when inſerted in ſections made through the integuments, and parts below, of living animals, ſhould be followed by ſuch conſequences, is perfectly analogous to all that is to be met with in Mr. Hunter's treatiſe on the blood and inflammation. That it ſhould be abſorbed, as extraneous, is a part of his doctrine of the abſorption of ſolid parts; that it ſhould ſtimulate under other circumſtances to ſuppuration, is only a part of what we there meet with, as the means of removing extraneous bodies. If in ſome inſtances putrefaction followed, this might eaſily be accounted for by the manner which the foreign fleſh was introduced, and the uncertainty whether it was inſtantly cloſed by the adheſive inflammation taking place in the living animal.

Dr. Pearſon's laſt ſuppoſition, though ſeemingly ſupported by ſomething like a climax, is to us unintelligible. Can the author mean, that a fœtus, which could not have remained in the abdomen according to the common laws of the human functions much leſs than forty years, ſtill retained its life? As to the actions alluded to, they ſeem perfectly analogous to what are obſerved under other circumſtances. For a time, part of the dead fœtus would be abſorbed by the veſſels of the mother in contact with it; and if this proceſs ceaſed, what was left might be incaſed, and its interſtitial ſubſtance filled with calculous matter, as we find happens to other extraneous bodies. The following paper ſhews that this proceſs may be carried ſo far as even to affect the living part in which this altered action is ſet up.

Med. and Phys. Jour.

CALDWELL'S *remarkable Caſe of an Oſſified Fœtus and Uterus in a Woman ſixty Years of Age.**

This caſe was attended with a number of intereſting particulars. The ſubject had many ſymptoms of labour under which ſhe died. The following is the account of the diſſection.

"She died about eight next morning, after a night apparently eaſy, and ſleep frequently repeated. Her body being opened by Mr. School, jun. her inteſtines were, in ſome places, marked with black ſpots of incipient mortification, dilated with flatulency. Her liver was extremely ſmall, but not diſeaſed. The uterine tumour was large and irregular, with its ſmall end to the neck of the uterus. It was evidently a child oſſified, and connected with the uterus, the greater part of which was oſſified. The head, with the face well marked, and one arm coiled, but obviouſly perceptible, formed the larger end of the tumour felt above the pelvis; and the part opened by ſciſſars, and conſidered the head, during the attempts to deliver, was the trunk of the body, and lower extremities compreſſed. The whole tumour reſembled a deformed buſt, having the head, neck, and trunk. There was no unnatural adheſion of the uterus, by previous inflammation, to the ſurrounding parts of the pelvis or abdomen. The child and uterus, oſſified together, were ſent to Dr. Clarke, profeſſor of midwifery in Dublin."

Med. and Phys. Jour.

Of the Utility of dipping Surgical Inſtruments into Oil, previous to an Operation.

Dr. Fauſt, in conjunction with Dr. Hunold, of Caſſel, will ſpeedily publiſh a work, in which they will demonſtrate that,

From the Edinburgh Journal.

excepting the lancet employed in vaccination, all the inſtruments of ſurgery ought to be dipped into oil at the moment when they are going to be uſed; by which method the pain of the ſubject operated upon will always be diminiſhed. In the ſame work it is recommended to make all inſtruments of a blood-heat a little before the operation. Theſe two precautions have already been practiſed in certain caſes, and with certain inſtruments.

Med. and Phys. Jour.

Defour's *Caſe of Plica Polonica.*

In this diſeaſe the hairs of the head are ſo twiſted and interlaced with each other, that they cannot be ſeparated without tearing or breaking them aſunder, in which caſe they pour out a bloody fluid. The plica Polonica is almoſt unknown in France, but is ſo extremely prevalent in Poland, as to have obtained the above appellation. The Jews reſiding in that country are particularly ſubject to it. Among the cauſes principally operating to produce this cutaneous affection, is reckoned the ſlovenly and dirty manner in which theſe people live; they ſeldom comb their hair; they live in low and moiſt ſituations, and indulge to exceſs in the uſe of ſpirituous liquors. Another cauſe believed to be productive of this malady is the uſe of certain waters, which, whether employed in the way of drink, or under the form of baths, never fail to produce diſagreeable conſequences. To theſe cauſes muſt be ſuperadded, an hereditary taint tranſmitted from father to ſon, and which conſiſts in the too great relaxation of the pores and bulbs of the hairs, which are ſituated beneath the ſkin of the cranium. Thus it happens that a groſs juice or matter, generated by the uſe of coarſe or indigeſtible aliments, and of impure water, is pro-

pelled, by means of the heat excited in conſequence of the abuſe of ſpirituous liquors, into the cavities of the hairs, oozes through their pores, and occaſions this malady.

During the month of December, 1801, I was deſired to viſit Mad. C—, reſiding in Vendome-ſtreet, (Paris) who laboured under this malady. This lady was of a ſanguine temperament, and of an irritable diſpoſition. During her youth, ſhe had ſuffered much from violent affections of the mind, and had been much addicted to the uſe of ſpirituous liquors. I ſaw her a few days after the diſeaſe manifeſted itſelf, and found her labouring under an acute inflammatory fever; her eyes appeared extremely red, remained half ſhut, and could ſcarcely tolerate the fainteſt light. On the fifteenth day from the commencement of the diſeaſe, I obſerved that the hairs ſtood erect, and were ſo intertwined, and glued together, that a night cap could not be kept on her head; and when the matted hairs were either cut, or broken, they poured out blood, eſpecially during the paroxyſms, or exacerbations of the fever, becauſe, at theſe periods, the patient was much more agitated, and more frequently moved her head.

During the firſt and ſecond ſtages of the diſeaſe, I preſcribed cooling, diluting, and demulcent medicines; and, in the third ſtadium, bitters combined with acids, and occaſionally gentle aperients were adminiſtered. At the ſame time, I employed externally, as a lotion, a decoction of comfrey roots, the leaves of brank-urſine, marſh-mallows, groundſel, and other emollients, with a view to favour the expulſion of the morbific matter by the hair, which appeared to be the outlet pointed out by Nature, as well as to prevent the reabſorption of the acrimonious and putrid humour into the ſyſtem, and thus prevent its repulſion upon any of the internal viſcera.

After a ſpace of three months, during which period much blood and pus were diſcharged, the complaint at laſt yielded without cutting out the hair, a practice reſorted to in Poland; and on the eighty-third day of the diſeaſe, to the aſtoniſhment of her friends, and phyſician, the hairy ſcalp entirely ſeparated, and was found lying looſe within her night-cap.

The patient long preſerved this integument of the cranium, which was extremely curious, not only on account of the ſize, or dilatation of the hairs, but from their matted form.

Since her recovery, a new crop of hair has made its appearance, and at the preſent period, 1806, is nearly as luxuriant as formerly.

Med. and Phys. Jour.

COLLINS, *on the Uſe of Tinctura Ferri Muriati in Retention of Urine.*

On July 12, I was ſent for and conſulted by a patient, attended by Dr. H. and Mr. L. of this town, labouring under excruciating pain from a retention of urine from ſtricture. I found him extremely irritable, pulſe 110, weak, tongue dry, bowels regular; and alſo that he had taken freely of the ext. cicutæ and opium, as well as having been in the hot bath; that the catheter could not be introduced, nor a bougie: and from the hiſtory of the caſe, the patient, a captain of a veſſel, living an irregular life, aged about ſixty, and afflicted with this complaint for above fifteen years; that he had taken much medicine, particularly antiſpaſmodics. The nature of the caſe did

not allow of much delay, nor did he ſeem likely to be relieved but by an operation, which I was unwilling to perform, as neither of the above gentlemen could be found. I therefore, at the earneſt entreaties of the patient that I would do ſomething for his relief, recollected a caſe Mr Cline mentions in his lectures, wherein the tinct. ferri muriati produced unexpected relief. I immediately procured ſome, which I began giving gt. v. every ſix minutes, in a little wine and water. After the third and fourth doſe, the patient became quieter, and, in leſs than half an hour, ſome water paſſed without any pain. In one hour he had diſcharged above half a pint, and continued to do ſo for ſome time with great relief; the other medical gentlemen then arriving, a ſtrong doſe of opium was given, and he ſpent a tolerable night.

I did not ſee him again for two days, when, upon being ſent for, I found him reduced to the ſame deplorable ſtate as before, although he had taken very large quantities of the cicuta and opium. We then repeated the tincture, and in leſs than two hours the man was again relieved by a diſcharge of urine. The firſt time he took about ninety drops, altogether; the laſt time about one hundred and thirty.

Med. and Phys. Jour.

Remedy in Ophthalmia.

Mr. John Shawe, ſurgeon, at Liverpool, has communicated to us a very effectual remedy for that ſpecies of inflamed eye, commonly called Egyptian ophthalmia. The following is an extract from his letter. "We had ophthalmia very prevalent here laſt ſummer; I believe it was very general throughout the

country; the inflammation was unuſually great, and extremely obſtinate; the pain in the eyes almoſt inſupportable, and particularly in attempting to open them, apparently as if ſharp ſand, or ſome rough ſubſtance was pricking them; the tears felt very hot in trickling down the cheeks. Suddenly I became a ſufferer, and for the firſt time in my life I had ever felt the pain of inflamed eyes. From the general deſcription, it is one and the ſame called Egyptian ophthalmia. It occurred to me, that ſome mucilaginous body might relieve, by uniting with the tears and blunting their acrimony. Accordingly, I prepared ſome mucilage of quince ſeeds, and had it dropped into my eyes. The inſtant relief that followed this application exceeded my expectation, and far ſurpaſſed every means I had heard or tried before; the pricking ſenſation was eaſed almoſt inſtantly, and the eyes could be moved with freedom. This will ſuffice, without giving you the number, or any long hiſtory of others, who have received equal benefit. I have tried the mucilage of gum arabic and linſeed, but without any benefit. Whether any peculiar property may be in the acid of the quince ſeeds uniting with the tears, and correcting their alkaline action, I do not preſume to give my opinion, and ſhall leave that to the ſuperior judgment of your readers."

Med. and Phys. Jour.

An Account of a ſmall Lobe of the human proſtate Gland, which has not before been taken Notice of by Anatomiſts; by EVERARD HOME, *Eſq.* F. R. S.*

"The ſubject of the preſent paper is a portion of a gland, which from the obſcurity of its ſituation has hitherto eſcaped

* From the Philoſophical Tranſactions of London.

obſervation; and were it not for the change produced in it by diſeaſe, which enlarges it ſo much that it ſometimes completely ſhuts up the canal by which the urine ought to paſs, it would be little deſerving of attention; but when this important effect is conſidered, the part itſelf becomes an object of very ſerious intereſt.

"In ſtating the circumſtances which led to the preſent inveſtigation, it may be neceſſary to mention, that the proſtate gland is liable in the latter period of life to enlarge; and when it does ſo, there is frequently a nipple-like projection, which riſes up and forms tumours of very different ſizes in the cavity of the bladder. Theſe tumours, as they obſtruct the paſſage of the urine, have attracted the attention of all anatomical ſurgeons, from the time of Morgagni to the preſent day. Their appearance has been accurately deſcribed, and ſpecimens of them in different degrees of enlargement are preſerved in every collection of morbid parts. The attention of ſurgeons has been naturally called to what is of the greateſt conſideration,—the appearances they put on, and the ſymptoms they produce: but the particular circumſtances in the natural conformation of the gland, which diſpoſe it to form theſe tumours, have never been examined. Morgagni ſays, 'Theſe caruncles were found to grow out in the very middle of the upper and internal poſterior circumference of the gland; but whether theſe things happened by chance, or otherwiſe, future obſervations will ſhew.'*

"From theſe expreſſions, it is evident that Morgagni had no idea that there was any conformation of the proſtate gland

* "Si ea, quæ ex Sepulchreto exempla indicavimus, et id, quod ſupra ex Valſalva attulimus, et noſtra omnia attentè inſpicias, cuncta in ſenibus fuiſſe animadvertes; ita noſtra omnia, in quibus carunculæ initium fuit, hanc in medio ipſo poſteriori interni ſummique glandulæ ambitûs excreſcentem obtuliſſe; caſune hæc cuncta, an ſecùs, futuræ oſtendent obſervationes. Morgagni *de Sed. et Cauſ. Morb.* lib. iii. epiſt. 41, A. 19."

that could account for this tumour, and believed that it aroſe from the ſurface of the body of the gland.

" Mr. Hunter, in treating of the enlargement of the proſtate gland, ſays, ' From the ſituation of the gland, which is principally on the two ſides of the canal, and but little if at all on the fore part, as alſo very little on the poſterior ſide, when it ſwells it can only be laterally, whereby it preſſes the two ſides of the canal together, and at the ſame time ſtretches it from the anterior edge or ſide to the poſterior, ſo that the canal, inſtead of being round, is flattened into a narrow groove. Sometimes the gland ſwells more on one ſide than the other, which makes an obliquity in the canal paſſing through it.

" ' Beſides this effect of the lateral parts ſwelling, a ſmall portion of it, which lies behind the very beginning of the urethra, ſwells forward like a point, as it were, into the bladder, acting like a valve to the mouth of the urethra, which can be ſeen, even when the ſwelling is not conſiderable, by looking on the mouth of the urethra from the cavity of the bladder, in the dead body. It ſometimes increaſes ſo much, as to form a tumour projecting into the cavity of the bladder ſome inches.'*

" From the firſt paragraph it is evident that Mr. Hunter was unacquainted with this lobe; and in the ſecond we ſee that his knowledge of the diſeaſe led him to conclude, that, in the natural ſtate of the gland, there was a portion of it in this ſituation: but neither at that time, nor at any future period of his life, did he proſecute the inquiry.

" Although a great part of my time has been for many years occupied in attending patients labouring under complaints of the bladder and urethra, and my opportunities of

* " Hunter on the Venereal Diſeaſe, p. 169."

examining theſe parts after death have been very frequent, my attention has been always ſo much employed on the modes of emptying the bladder (an operation which, in many caſes, is attended with conſiderable difficulty), that it never occurred to me to inſtitute an inquiry for the purpoſe of attaining an accurate knowledge of the extent of the diſeaſe, until the month of December, 1805.

" At that time my attention was directed to this ſubject by the following circumſtances. In the examination of the proſtate gland of an elderly perſon, who had died in conſequence of this part having been diſeaſed, the nipple-like proceſs was found very prominent, and a bridle, nearly a quarter of an inch in breadth, extended from the middle line of the tumour to the bulb of the urethra, where it inſenſibly diſappeared. The uſual rounded projection of the *caput gallinaginis* was not viſible: it had waſted away, and the remains were concealed in the fold forming this bridle, which at that part was not thicker than at any other. The ſpace between the tumour in the bladder and the bulb of the urethra was unuſually ſhort, which is the reverſe of what is commonly met with in old men; ſo that this bridle appeared to have drawn the bulb towards the tumour, and ſhortened the membranous part of the canal.

" As this was an unuſual appearance, it led me to conſider it with attention, and to aſk if other anatomiſts had noticed it; which, as far as my inquiries have gone, has not been the caſe. The bridle had evidently been formed by the membrane of the bladder adhering firmly to that part of the proſtate gland compoſing the tumour, which it conſequently followed in its future increaſe, and drew up after it the membrane of the urethra. In this way the fold had in time become nearly a quarter of an inch broad, and was continued of the ſame breadth to the bulb, where, the lining of the urethra being more attach-

ed to the ſurrounding parts, it did not admit of being drawn up.

" This appearance of a bridle is more or leſs met with in all the caſes in which the nipple-formed proceſs occurs, but in ſo much ſmaller a degree, and not continued beyond the caput gallinaginis, that it never before led me to pay attention to it.

" To ſatisfy myſelf how this tumour was formed, it became neceſſary to examine the proſtate gland in its natural ſtate, and aſcertain whether there is any part ſufficiently detached to move independent of the reſt of the gland, and explain the appearances which had been met with in this particular caſe.

" My profeſſional avocations not affording time to make the diſſections requiſite for this purpoſe, Mr. Brodie, Demonſtrator of Anatomy to Mr. Wilſon, Teacher of Anatomy, in Windmill Street, whoſe knowledge of the ſubject fitted him for the taſk, and whoſe zeal for the improvement of his profeſſion made him willingly undertake it, gave me his aſſiſtance, and took the whole of that labour on himſelf.

" While diſſecting the parts for this purpoſe, the urinary bladder was diſtended with water, and the ſurfaces of the proſtate gland, veſiculæ ſeminales, and vaſa deferentia, were fairly expoſed. This being done, the vaſa deferentia and veſiculæ ſeminales were carefully diſſected off from the bladder, without removing any other part: theſe were turned down upon the body of the proſtate gland. An accurate diſſection was then made of the circumference of the two poſterior portions of the proſtate gland, and the ſpace between them was particularly examined. In doing this, a ſmall rounded ſubſtance was diſcovered, ſo much detached, that it ſeemed a diſtinct gland, and ſo nearly reſembling Cowper's glands in ſize and ſhape, as they

appeared in the ſame ſubject, in which they were unuſually large, that it appeared to be a gland of that kind. It could not, however, be ſatisfactorily ſeparated from the proſtate gland, nor could any diſtinct duct be found leading into the bladder.

"A ſimilar examination was made of this part in five different ſubjects. The appearance was not exactly the ſame in any two of them. In one there was no apparent glandular ſubſtance, but a maſs of condenſed cellular membrane: this, however, on being cut into, differed from the ſurrounding fat. In another there was a lobe blended laterally with the ſides of the proſtate gland. Theſe facts are mentioned in proof of its not being always of the ſame ſize, nor having exactly the ſame appearance: this is found alſo to be the caſe with Cowper's glands; they are ſometimes large and diſtinct; in other ſubjects are ſcarcely to be detected, and in others again are in all the intermediate ſtates. The moſt diſtinct and natural appearance of this part was in a healthy ſubject twenty-five years of age, of which the following is an account. On turning off the vaſa deferentia and veſiculæ ſeminales, exactly in the middle of the ſulcus, between the two poſterior portions of the proſtate gland, there was a rounded prominent body, the baſe of which adhered to the coats of the bladder. It was imbedded not only between the vaſa deferentia and the bladder, but alſo in ſome meaſure between the lateral portions of the proſtate gland and the bladder, ſince they were in part ſpread over it, ſo as to prevent its circumference from being ſeen, and they adhered ſo cloſely as to require diſſection to remove them, nor could this be done beyond a certain extent; after which the ſame ſubſtance was continued from the one to the other. This proved to be a lobe of the proſtate gland, the middle of which had a rounded form, united to the gland at the baſe next the bladder, but rendered a ſeparate lobe by two fiſſures on its oppoſite ſurface. Its ducts paſſed directly through the coats of the bladder, on which it lay, and opened immediately

behind the verumontanum. By means of this lobe a circular aperture is formed in the proſtate gland, which gives paſſage to the vaſa deferentia.

" The appearance of this lobe has been ſince examined in a ſubject twenty-four years of age, and it was found ſtill larger, and more diſtinct.

" Previous to this inveſtigation, it was not known to me that any diſtinct portion of the proſtate gland was ſituated between the vaſa deferentia and the bladder. Theſe ducts were conſidered to paſs in the ſulcus between its two poſterior portions, in cloſe contact with the body of the gland. This account correſponds alſo with the deſcription given by Winſlow and Haller: it is, however, now proved to be erroneous. It is not in my power to determine whether all the anatomiſts of the preſent day have fallen into this error in the ſame degree with myſelf: but none of them have pointed out this lobe; and, therefore, in whatever way they have deſcribed the vaſa deferentia to paſs into the bladder, they have neither anticipated nor thrown any light on the preſent inquiry.* Haller ſays, expreſsly, that 'the proſtrate gland has no lobular appearance,' and the anxiety which all anatomiſts have to improve their art would have led them to correct this error, had they diſcerned that it was one.

" This newly acquired anatomical fact, enables us very clearly to underſtand the nature of a diſeaſe, which it was not poſſible we could have a correct idea of when we were ignorant of the exiſtence of the part in which it takes place. It not only

* " Glandula, aut certe celluloſum compactum corpus, quod proſtata dicitur. P. 464. Fabrica obſcura eſt, et neque glandulæ ſimplicis ſimilis, cujus cavea eſſet aliqua, neque compoſitæ; neque enim in lobulos recte diſcedit. P. 465. *Elem. Phyſiologiæ Corporis Humani, Autore* Albert. Haller. Tom. VII."

explains the ſituation of the tumour, the want of connection with the body of the gland, and the narrowneſs of its baſe where that is met with, but it ſolves what has ever appeared to me the greateſt difficulty, how it ſhould protrude into the cavity of the bladder. This ariſes from the hard ſubſtance of the coats of the vaſa deferentia being in cloſe contact, and bound down upon this lobe, ſo that from its firſt enlargement it muſt immediately preſs up the inner membrane of the bladder which can make very little reſiſtance.

" This lobe of the proſtate gland, from its ſituation and connection with the vaſa deferentia, is liable to many cauſes of ſwelling, which the body of the gland itſelf is free from; for every irritation upon the ſeminal veſſels, or their orifices, may be communicated to it by continuity of parts: and aged men, from an ignorance of theſe facts, are too often, through imprudence, producing an excitement in thoſe veſſels which the parts are unable to ſupport; and when this is long continued, inflammation becomes the conſequence, which cannot take place to any degree without being communicated to this lobe, and producing an enlargement of it.

" Every violent effort which is made to empty the urinary bladder produces an unuſual preſſure againſt this lobe, by which it may be injured. There is alſo much reaſon for believing that the diſeaſed ſtate of the lateral parts of the gland, ſo very commonly met with in the latter period of life, has its origin in this particular lobe; ſince in moſt of the caſes of a diſeaſed ſtate of the gland, which have come under my obſervation after death, this lobe has been enlarged in a greater degree in proportion to its ſize than any other part; and in ſome inſtances the enlargement of it has been very great, while it appeared to be only beginning in the lateral portions.

" Difficulty in paſſing the urine is a ſymptom, which comes on very early in diſeaſes of the proſtate gland, and ariſes entirely from this lobe being increaſed in ſize, ſince any enlargement in the lateral portions of the gland widens the canal inſtead of diminiſhing it, and they do not require much force to ſeparate them; but the leaſt increaſe of this lobe tends to ſhut it up.

" The enlargement of this lobe produces an effect which is not generally known, and leads medical practitioners into an error reſpecting the nature of the complaint. The orifice of the urinary bladder, which is the loweſt part in the natural ſtate, is raiſed up in proportion to the increaſe of this lobe; ſo that none of the contents below that level can be expelled, although whatever is above it is allowed, with more or leſs difficulty, to paſs out. In this way the perſon never evacuates more than one half or one third of the urine contained in the bladder; but as the water which comes away paſſes in a ſtream, and the quantity voided in twenty-four hours is ſufficient, no ſuſpicion is entertained of the cauſe of the frequency and diſtreſs in paſſing it, and the ſymptoms are referred to an irritable ſtate of the coats of the bladder. It is only by drawing off the urine through a catheter that the diſeaſe in this lobe can be aſcertained; as in that way alone the quantity of urine which is retained can be determined. No examination *per anum* can give the ſurgeon any information on this ſubject, ſince the poſterior ſurface of the vaſa deferentia only is to be felt, if the finger ſhould reach ſo far: and yet it is in this way that practitioners in general pretend to judge of the greater or leſs degree of the diſeaſe, although that portion of the gland which forms the moſt important part of the complaint is wholly out of their reach.

" The leaſt projection of this lobe into the bladder ſtretches the internal membrane of that viſcus which paſſes over it, keeps

it in a ſtate of irritation, and makes it liable to be graſped by the action of the ſphincter muſcle in expelling the laſt drops of urine, ſo as to give the patient excruciating pain. When it is more enlarged, theſe ſymptoms go off.

"From theſe obſervations, it appears that this ſmall lobe of the proſtate gland, which has been overlooked, is, from the ſituation and the circumſtances in which it is placed, more liable to become diſeaſed than any other part of the gland, and produces ſymptoms of danger and diſtreſs peculiar to itſelf, which have been hitherto ſuppoſed to ariſe from the body of the gland becoming enlarged.

"To enter further into the effects of diſeaſe on this lobe would be improper on the preſent occaſion, but not to have noticed them at all would have been equally ſo, ſince the only importance that can be attached to the facts, which have been brought forward in this paper, ariſes from the light they throw on the diſeaſes of the proſtate gland."

Med. and Chir. Rev.

Poiſonous Impregnation of common Salt and of Muriatic Acid.—From the Manual of Health.

The minute criticiſm on the *Reſearches concerning Spring Water*, and the *Enquiry concerning conſtitutional Diſeaſes*, however juſt, appears to us a little out of place. We certainly agree with the author (if he be ſerious), that he has made out a ſtronger caſe with regard to the poiſonous impregnation of common ſalt by mercury, than Dr. L— of the contamination of water by *arſenic* and *lead*.* Common ſalt, he obſerves, is contaminated with quickſilver; a fact that was obſcurely noticed by Becher, Kircher, Glauber, Boyle, and other old chemiſts. Rouelle,

* See Med. and Chir. Rev. vol. xi, p. 64, and vol. xii, p. 11

a French chemiſt, announced it diſtinctly in the *Journal de Medicine;* and M. Prouſt of Madrid has placed the fact beyond a doubt. He perceived it firſt by the ſpots of amalgam left by ſalt upon ſilver. Examination of the muriatic acid of different countries diſcovered to him that it contains corroſive ſublimate: in ſome ſpecimens he found as much as two grains in the pound. It is a common practice with butlers to clean their plate with mercurial powders: thoſe who uſe ſuch plate muſt inevitably ſwallow ſome of the mercury. Here, then, is an hitherto unſuſpected ſource of *conſtitutional* diſeaſes.

Med. and Chir. Rev.

Obſervations on Hydrophobia.—From the Manual of Health.

"The only caſe upon record in which a cure appears to have been effected after hydrophobia (if really ſuch) had come on, occurred in America. The patient was ſaved, as the account ſtates, by moſt profuſe bleeding. The particulars muſt be well known to every one who has kept pace with the current of medical information. Some obſervations, which are certainly curious and promiſe to be uſeful, were made two years ago at Jena. Dr. G. G. Zinke took, after it was dead, from a mad dog, that had bitten other animals with a fatal effect, ſome of the ſaliva with a camel's hair bruſh, and the very ſame day inoculated another dog on both the fore-legs. The cuts were bound up, to prevent the animal from licking them. It was properly ſecured and fed. The belladonna, which has been recommended as a remedy in ſuch caſes, was adminiſtered. The animal continued lively, and had a good appetite for ſeven days: on the eighth it refuſed food, drooped, and crept into

the corner of its kennel. The tenth, complete madneſs broke out.

"A ſecond dog was inoculated in three places, but the ſaliva on the bruſh was diluted with a ſtrong ſolution of white arſenic in water. In two hours the bandages were removed, and the wounds were wetted with the arſenical ſolution. On the third day the animal appeared ſomewhat indiſpoſed, and the wounds were found with inflamed edges and covered with a ſcab, under which there was a little matter. No ſymptoms of hydrophobia followed.

"A cat was inoculated with ſaliva diluted by tincture of cantharides. Ointment of cantharides was twice rubbed upon the cuts. The eighth day this cat refuſed food, drooped, and crept from corner to corner. The ninth day, with flaming eyes and the tail drawn in, ſhe ran againſt the wall, biting at every thing that was thrown to her. She was now deſtroyed.

"A rabbit was inoculated with ſaliva mixed with a drop of volatile alkali. The wound, in four hours, was waſhed with this alkali, and covered with linen ſoaked in it. The eleventh day the animal became mad, after previous indiſpoſition.

"Another rabbit was inoculated with ſaliva from the mad dog, diluted with healthy ſaliva. In two hours the wounds were waſhed with ſtrong ſoaper's lye, and again in two hours more. No hydrophobia.

"A dog was inoculated with the ſaliva diluted with a little water in which phoſphorus had been rubbed. In ſix hours the wounds were bathed with the phoſphorus water. On the third day the wounds were ſcabbed over and inflamed. The

fifth day the dog was heavy and without appetite; but theſe appearances went off, and the hydrophobia did not enſue.

"A cock was inoculated with the ſaliva diluted by a little gaſtric liquor from a cat. In two hours the wounds were rubbed with a tooth-bruſh dipped in vinegar; and again, in another hour, with gaſtric liquor: and in four hours more, repeatedly, with tincture of cantharides, and ſuppuration was kept up with ſalve of cantharides; nevertheleſs, the fourteenth day, hydrophobia came on.

"In five caſes of the bite of a mad dog Dr. Zinke ſucceſsfully rubbed the wounds with a tooth-bruſh wetted with ſtrong ſoaper's lye, after which inciſions were made in them. The perſon bitten was then put into a warm bath, or, in caſes where this could not be had, he was waſhed all over with ſoaper's lye and ſoap ſuds. He was then put into a warm bed, and warm diluents adminiſtered. After the wounds had ceaſed to bleed, white arſenic, mixed up into a paſte as for application to a cancer, was laid upon every point of the wound. This occaſioned pain and ſwelling, but no farther injury.

"Phoſphorus diſſolved in ether was given internally.

"The application of arſenic, as recommended by Dr. Zinke, ſeems a real improvement in the treatment of theſe bites. Every medical man knows, or ought to know, that arſenic can be externally applied without detriment: and caſes may be quoted where the moſt ſevere methods hitherto recommended were unſucceſsfully practiſed ſoon after the accident. I have been informed that in the Eaſt Indies people are frequently bitten by mad dogs, and not unfrequently periſh, in ſpite of attempts at exciſion and irritation of the parts immediately afterwards."

Med. and Chir. Rev.

*On the Exciſion of Carious Joints.**

Mr. Park's Treatiſe on the Exciſion of Carious Joints, of which a re-publication is here made, was firſt publiſhed in the year 1782, under the form of a letter to Mr. Pott. In this little work, the author adviſes, under certain circumſtances of injury or diſeaſe, the entire removal of the extremities of all the bones which form the joints, with the whole, or as much as poſſible, of the capſular ligament; thereby obtaining a cure by means of callus, or by uniting the femur and tibia, when practiſed on the knee; and the humerus, radius, and ulna, when at the elbow, into one bone, without any moveable articulation. In this way, Mr. Park thought amputation of the whole limb might be avoided, and the patient be left, upon the whole, in a better ſituation afterwards, than where the latter operation is had recourſe to.

The practicability of ſuch an operation, with a probability of ſucceſs, was undoubtedly very queſtionable, eſpecially where the larger joints are concerned. The hazard of wounding the principal blood-veſſels; the great inflammation and large ſuppurations uſually conſequent on wounds of the articulations; the uncertainty of obtaining a firm callus; the loſs of the inſertions of the extenſor-muſcles; the doubt reſpecting the utility of the limb, provided a cure could be obtained; the uncertainty of removing the whole diſeaſe when caries gave riſe to the operation: and, when undertaken on account of ſcrophulous affections of the joints, the hazard of a return of the ſame diſeaſe: theſe were difficulties and objections calculated ſtrong-

* From a review of a work, entitled, "Caſes of the exciſion of carious joints. By H. Park, ſurgeon in the Liverpool hoſpital, and P. F. Moreau, de Bar-ſur-Ornan, M. D. de l'ecole de Paris. With obſervations by James Jeffray, M. D. profeſſor of anatomy and ſurgery in the college of Glaſgow."

ly to deter ſurgeons from ſuch an undertaking. Theſe difficulties, however, did not appear inſurmountable to Mr. Park. He firſt proved the practicability of the operation on the dead body, and then had recourſe to it on a patient admitted into the Liverpool Infirmary with a diſeaſed knee of ten years ſtanding. In this caſe he removed rather more than two inches of the femur, and more than an inch of the tibia, and of courſe the patella. An inciſion was made, beginning about two inches above the upper end of the patella, and continued downwards about as far below its lower extremity; another, croſſing this at right angles, immediately above the patella, the leg being in an extended ſtate, was made through the tendons of the extenſor muſcles down to the bone, and nearly half round the limb; the lower angles formed by theſe inciſions were raiſed ſo as to lay bare the capſular ligament; the patella was then taken out; the upper angles were raiſed ſo as fairly to denude the head of the femur, and to enable him to paſs a ſmall catlin acroſs the poſterior flat part of the bone immediately above the condyles, taking care to keep one of the flat ſides of the point of the inſtrument quite cloſe to the bone all the way. The catlin being withdrawn, an elaſtic ſpatula was introduced in its place, to guard the ſoft parts while the femur was ſawed through; which done, the head of the bone thus ſeparated was carefully diſſected out: the head of the tibia was then with eaſe turned out and ſawn off, and as much as poſſible of the capſular ligament diſſected away, leaving only the poſterior part covering the veſſels. The only artery that was divided in the operation was one on the anterior part of the knee, which ceaſed to bleed before the operation was concluded. The ſymptoms which ſucceeded to the operation were, as might have been expected, pretty ſevere, but were relieved by the uſual means. It was nearly eight months, however, before the wound, and the occaſional abſceſſes which formed around the part, had entirely healed. The patient recovered ſo much ſtrength, at laſt, as to have got a ſtrong and uſeful limb, free

from pain and ſwelling, and was able to return to his ſea-faring mode of life.

The utility and advantage of a ſimilar operation on the elbow joint, in preference to amputation, Mr. Park thinks is very obvious: yet he had not himſelf performed it. Mr. Alanſon, however, his colleague, met with a caſe which ſeemed to eſtabliſh its practicability. A woman was brought into the infirmary for an extenſive gangrene, occaſioned by a fall on the elbow joint. The joint was laid bare by the gangrene, and the capſular ligament deſtroyed. In a few weeks the olecranon exfoliated, as did likewiſe the inner tuberoſity of the humerus, with a ſcale about ſix inches long, one in breadth, and about as thick as a ſhilling, from the back part of that bone. The joint was ſoon filled by granulations, and healed over: a firm callus was obtained, and the patient was diſcharged with a ſtiff elbow, but with a hand as uſeful as in ordinary caſes of ſtiff joints.

In the year 1789, Mr. Park publiſhed, in the *London Medical Journal*, vol. xi, a ſecond caſe of exciſion of the knee joint, which, however, terminated as unfortunately as the other did favourably. The patient lived nearly four months after the operation, and then ſunk, from apparent exhauſtion, the wound never having healed. A brief account of a ſimilar operation by a neighbouring ſurgeon, about twenty years before, is given, and which is ſaid to have been attended with ſucceſs. Two caſes are likewiſe mentioned from Mr. Trye, of Glouceſter, who aſſiſted the late Mr. Juſtamond in removing the olecranon, and two inches of the ulna, in a man who had a diſeaſed elbow joint; in the other, the os humeri was ſeparated, by an accident, from its connexion with the bones of the fore-arm, and forced, denuded of its perioſteum, through the integuments. Two inches and a half of its length, including the condyles, were ſawn off. Both theſe caſes terminated ſucceſsfully.

In ſome ſubſequent obſervations of Mr. Park, which accompany the preſent edition, he complains that his work produced very little indeed of the effect it was intended to produce. "The oppoſition it met with," he obſerves, "and the failure of my ſecond operation, ſo totally defeated my views, that I have not yet learned that it has, hitherto, proved the means of ſaving a ſingle limb in the whole of the Britiſh dominions. In this ſtate of neglect, and, indeed, of oblivion, would my attempt, in all probability, for ever have remained, had not the late M. Moreau, an enterpriſing French ſurgeon, taken up the ſubject, and carried his experiments farther than I ever ventured to attempt. When Mr. Moreau's work fell into my hands, Dr. Jeffray was accidentally in Liverpool, where he firſt ſaw it, and thought the ſubject of ſufficient importance to induce him to take the trouble of tranſlating it for the benefit of his ſtudents. This tranſlation he has conſented to publiſh; and politely propoſed that an impreſſion of my pamphlet ſhould accompany it, in order that they who read Mr. Moreau's obſervations upon it, may, at the ſame time, ſee the work on which theſe remarks were made. To this propoſal I readily acceded, in hopes that more attention will be paid to the ſubject now than it has hitherto received."

Mr. Park takes occaſion here to ſpeak of the practice of ſawing off the protruded ends of bones in compound diſlocations, previous to the attempt at reduction; a practice that he laments is not ſo general as it ought to be. It has been the invariable practice, he ſays, at the Liverpool Infirmary, for more than thirty years, and, he believes he may ſay, attended with invariable ſucceſs.

The pamphlet of M. Moreau, alluded to above, and of which a tranſlation is here given, contains eight caſes of exciſion of joints; three of the elbow, one of the knee, two of the ankle, one of the tarſal, and one of the ſhoulder joint; all of which

terminated favourably, as did many others, M. Moreau ſays, on whom ſimilar operations were performed. The motion of the fore-arm upon the arm, as far at leaſt as to flexion and extenſion, have been in all the caſes preſerved, which he attributes to the care that was taken to preſerve the radial attachment of the biceps, and the ulnar attachment of the brachiæus internus, or of one of them.

M. Moreau's method of operating on the knee differs conſiderably from that of Mr. Park. Inſtead of the longitudinal inciſion along the front of the knee, M. Moreau made an inciſion on each ſide, between the vaſti and flexors of the leg. Theſe inciſions were begun about two inches above the condyles of the femur, and were carried down along the ſides of the joint, till they reached the tibia. They were then united, by a tranſverſe cut, which paſſed below the patella, penetrating to the bone. The flap thus formed, including the patella, was raiſed by diſſection, when the heads of the different bones became ſufficiently acceſſible to the ſaw.

Not the leaſt valuable part of the work are the ſubjoined obſervations of *Profeſſor* Jeffray, conſiſting of critical remarks, the reſult of his anatomical and phyſiological knowledge, upon the nature and ſteps of the different operations here ſpoken of, together with the deſcription of a new ſpecies of ſaw, calculated greatly to facilitate the removal of the diſeaſed portions of bone.

The chief difficulty in theſe operations is, to ſaw the bones without injuring the ſoft parts with the ſaw. The common ſaw, whatever its ſize, being ſtraight on its cutting edge, and on that account, acting in a direct line on every thing that comes in its way, is ill adapted for this operation, when the bones are ſunk deep among the fleſh, whatever care is taken to depreſs or draw this aſide, and however extenſive the wound. This cir-

cumſtance has had no ſmall ſhare in deterring ſurgeons in this country from attempting the operation. In order to overcome this difficulty, Dr. Jeffray thought it might be poſſible to conſtruct a flexible ſaw, with joints like the chain of a watch, ſo as to allow it to be drawn through behind a bone by a crooked needle, like a thread, and to cut the bone from behind forward, without injuring the ſoft parts. Such a ſaw was accordingly made, and has been annually uſed on the dead ſubject in the anatomy claſs at Glaſgow, ever ſince the year 1790, and has been occaſionally lent to ſurgeons, by whom it has been uſed in operations. The maker of it was Mr. Richards of London, who was aſſiſted in the making of it by his nephew, the preſent Mr. Richards of Brick Lane. A ſketch of ſuch a ſaw was publiſhed about the time by Dr. Aitken of Edinburgh. It appears admirably calculated to anſwer the purpoſe intended by it, and ſerves to do away a material part of the objection to the operations in queſtion.

One great advantage derivable from the flexible ſaw is, that the tranſverſe inciſion may be diſpenſed with; by which the attachments of the extenſor muſcles are preſerved, and conſequently, in ſome degree, the future motion of the limb, where the extremities of the bones are not united by callus. By making two longitudinal inciſions, one on each ſide, the chain ſaw can be entered on one ſide, and be conducted by the needle acroſs, and in contact with, the upper ſide of the bone, to the wound on the other; and from thence it can be brought back, under the bone, with equal ſafety and eaſe. Thus the cutting is diminiſhed, no flaps are made, and the wound has a chance of healing by the firſt intention.

The flexible ſaw, Dr. Jeffray ſays, has been likewiſe a good deal uſed in other caſes: ſuch as cutting off the carious or protruding ends of bones from ſtumps, in caſes of ſloughing after amputation;—removing angular pieces from bones, in com-

pound fractures;—cutting out pieces of bone, in caſes of necroſis;—and ſawing off the callous extremities of bones that would not unite after fracture; for all which purpoſes it appears to be particularly well adapted.

A great number of other valuable remarks are made reſpecting the means of avoiding the blood-veſſels and nerves, but which it would be difficult to abridge without injury. We have ſaid enough, we truſt, to excite the attention of ſurgeons to the work itſelf, which, we are perſuaded, will gratify them in the peruſal.

Med. and Phys. Jour.

Contagious Ophthalmia.

An ophthalmia has for ſome months paſt raged with great violence among the ſoldiers of ſeveral Britiſh regiments in this country, particularly the fifty-ſecond, and which reſembles entirely in its ſymptoms and conſequences the Ægyptian ophthalmia, which deprived ſo many of our brave countrymen of their ſight, during the late expedition to that part of the world. In a great number of inſtances, it has proved abſolutely incurable, and totally deſtroyed the ſight, by inducing a milk-like opacity of the cornea. The diſeaſe has ſpread through the greater number of the regiment, and attacked as well the wives and children of the ſoldiers; while other regiments, though in apparently ſimilar circumſtances with regard to ſituation and external cauſes, have wholly eſcaped the diſeaſe. This ſeems to ſhew that the diſorder really ſpreads by contagion. It has been ſuggeſted, however, with great probability, by Mr. Ware, the celebrated oculiſt, in an addreſs to the public on the ſubject,

in ſeveral of the daily newſpapers, that it is not by effluvia, or infection (in the common acceptation of the word), that the diſorder is communicated, but by the direct application of the matter ſecreted by the inflamed part, from the ſoldiers waſhing after one another, and by other means of communication. Hence he ſuggeſts a moſt important caution with regard to cleanlineſs, and the avoidance of all unneceſſary intercourſe between the ſick and the healthy.

Med. and Chir. Rev.

Caution reſpecting Oil of Turpentine.

An accident has lately occurred in this city, which ſtrongly ſuggeſts the neceſſity of extreme caution in the uſe of oil of turpentine, as a remedy for extenſive burns and ſcalds. A ſervant girl ſtanding near the fire with a child in her arms, her clothes, by the accidental falling of a ſpark, caught fire. She ran out of the room ſcreaming, and was met on the ſtairs by the father of the child, who firſt ſnatched the infant from her, and then uſed his beſt endeavours to extinguiſh the flames. This, however, he was not able to accompliſh, till both the ſervant and child were ſeverely and extenſively burned. Oil of turpentine was very liberally applied, and directed to be frequently repeated, by night as well as day. For this purpoſe, a young lady, a relative of the family, ſat up with the ſervant, and, while making the application, the oil of turpentine caught fire: the bed and linen, ſoaked as it were in the inflammable liquid, were inſtantly in one general blaze. So rapid was the combuſtion, that the poor ſervant girl, rendered helpleſs by the former injury, was burnt almoſt to a cinder, and her attendant at the ſame time ſo ſeverely ſcorched, as to have ſince, it is ſaid, fallen a victim to the unhappy accident. A ſubſtance ſo highly in-

flammable as oil of turpentine ought on no account to be applied by candle-light, or at leaſt not without the moſt extreme caution.

Med. and Chir. Rev.

Method of procuring Tannin and Gallic Acid, ſeparately, from Gall-nuts.

If galls be digeſted in pure alkohol, the gallic acid is taken up, with little or none of the tannin, and may then be obtained by evaporation and cryſtallization. The tannin, which is ſcarcely at all ſoluble in pure alkohol, may be procured by infuſion or decoction of the remaining galls in water, and evaporating to dryneſs.

Med. and Chir. Rev.

Of the Uncertainty of the Doſes of Medicines.

A boy labouring under epilepſy in one of the hoſpitals of this metropolis, is at preſent taking no leſs than eighteen grains daily of the *argentum nitratum* (lunar cauſtic), and without its producing any remarkable effect. Another patient, a female, attacked with hæmorrhage, under the care of a private practitioner, takes nine grains of the *ceruſſa acetata (ſaccharum ſaturni)* at a doſe, and that without occaſioning colic or any other bad ſymptom.

Theſe doſes appear, at firſt, enormous; and indeed ſcarcely credible, when we conſider that a quarter of a grain of the

former medicine, and half a grain of the latter, are the quantities uſually exhibited; and even in theſe doſes are often obſerved to produce ſuch powerful effects, as to oblige the practitioner to lay them aſide. This apparent anomaly can only, perhaps, be explained, by reference to the mode of exhibition, and the vehicle in which they are given. The argentum nitratum in the above caſe is given in ſolution, or rather in diffuſion, for the lunar cauſtic is difficultly and ſparingly ſoluble in water, and more or leſs ſo according to the degree of heat to which the ſalt is ſubjected in forming it into lunar cauſtic. It may be, therefore, that the quantity of the medicine really taken in this caſe is much leſs than is ſuſpected. And with regard to the ſaccharum ſaturni, this, it appears, is given in combination with the infuſion of roſes, acidulated with the ſulphuric acid. Here, probably, the aſtringent matter alters the qualities of the metallic ſalt, as has been before remarked with regard to mercurial ſalts, which are by this means rendered comparatively inert.

Med. and Chir. Rev.

Gardner, on the Effect of the Galvanic Fluid upon Vegetable Infuſions.

Mr. Gardner, of the City Diſpenſary, has, in the courſe of ſome Galvanic experiments, been led to try the effect of the Galvanic fluid upon vegetable infuſions. Turmeric with diſtilled water was firſt ſubmitted to trial; the circuit being made with iron wires, gas was given out from both, and the infuſion became gradually changed from a bright yellow to a deep brown, beginning at the upper part of the tube, both wires became black, probably from the oxygen evolved from the water. The

ſame quantity of the infuſion of litmus was then ſubjected to the Galvanic action; in a few minutes the blue tinge began to fade; the liquor became diaphanous, and at length exhibited a greeniſh colour, gas being given out from both wires, which were alſo turned black. From theſe experiments, he conceived an alkali had been formed during the operations; to prove the truth of the conjecture, he was enabled to reſtore the blue colour to the litmus, by means of dilute ſulphuric acid. He repeated the experiment ſeveral times with the ſame ſucceſs. Syrup of violets, diluted with an equal quantity of diſtilled water, and Galvanized with ſilver and iron wires, turned as perfectly green as it could have done on the addition of pure ammonia, potaſh, or ſoda.

Med. and Phys. Jour.

*Appearances on Diſſection of a Caſe of Diſeaſed Spleen.**

1. "The coats of the ſtomach were nearly three times thicker than uſual; its cavity reduced to about one-third of the cuſtomary ſize, the rugæ very diſtinct; the cardia and pylorus in a ſound ſtate; but a little above the ſphincter pylori there was a quantity, nearly an ounce, of cheeſe-like matter in a granulated form, adhering to the external coat of the ſtomach, but not conſtricting the paſſage into the duodenum; there were no traces of inflammation either on the inner or outer coat of the ſtomach.

2. "The omentum was greatly enlarged, and entirely covered with cheeſe-like matter in a granulated ſtate; conſiderable portions of its ſubſtance were thickened to a full inch in depth, and were altogether formed of the ſame caſeous material, which

* From the Edinburgh Medical and Surgical Journal. No. 8.

might be rubbed between the fingers into a paſte, but ſomewhat gritty to the touch. The omentum was depreſſed far below its uſual ſituation, and ſtrongly and extenſively adhered to the peritonæum and inteſtines.

3. "The ſpleen was one maſs of diſeaſe; half of its proper bulk appeared to be abſorbed or waſted, and the organization of the remaining part completely obliterated, and in a ſtate approaching towards ſolution; the peritonæal coat of its internal concave ſurface, was dilated into a very large cyſt, with blood-veſſels of an enormous ſize, ramifying on its inferior part, or fundus. The upper part of the cyſt ſtrongly adhered to the whole under ſurface of the ſtomach, and the lower part to the upper edge of the great arch of the colon. The diameter of the cyſt was full ſix inches, and it contained more than a pound and a half of dark, denſe, coagulated blood, ſeveral portions of which, nearly as large as a man's fiſt, floated in a brown coloured ſerum, of which there was better than a pint. We have already related that two pints of a ſimilar fluid had been drawn off, previous to death, and the capacity of the cyſt was ſuch as to admit of conſiderably more than four pints. The bottom and ſides of this bag were covered about an inch deep, with a black tenacious matter of the conſiſtence of congealed honey, and, when examined with the fingers, was found interſperſed with maſſes of the ſame caſeous ſubſtance, which covered the omentum. The great ſize of the cyſt preſſed the ſtomach high up, and cloſe to the diaphragm, and the arch of the colon was, from the ſame cauſe, thruſt down many inches below its natural ſituation, and was contracted in that part of its courſe to the ſize of a ſmall inteſtine. There was no communication from this cyſt with the liver, ſtomach, or inteſtines, and there was no fætor, and no pus in any of the diſeaſed viſcera.

4. "The liver was preſſed high up by the bulk of the cyſt, its lower edge being conſiderably within the margin of the thorax.

It was perfectly ſound and healthy in all its lobes, not a mark of diſeaſe appearing, either externally or internally. It was rather ſmaller than uſual in ſize, and the left lobe could not be ſaid to paſs into any part of the left hypochondriac region, owing probably to the magnitude of the cyſt. The lobulus ſpigelii was alſo in the moſt perfect ſtate, and the gall bladder was diſtended with bile, and of its proper colour.

5. "The inteſtines, with the exception of the arch of the colon, were nearly free from diſeaſe, but compreſſed into a very ſmall compaſs, and adhering to the omentum. The blood veſſels upon the arch of the colon were turgid, and part of the meſocolon was as much diſeaſed as the omentum, being thickly interſperſed with cheeſe-like matter in a granulated form. The arch of the colon was ſo reduced in bulk, and compreſſed, that when the body was opened, it projected like a chain of very ſmall bladders.

6. "The kidneys, uterus, and bladder, were in a ſound ſtate.

7. "The thoracic viſcera were alſo perfectly ſound."

Pneumatic Tinder-box.

The diſcovery of the inflammation of inflammable bodies by the ſudden and forcible compreſſion of air in tubes, mentioned in a former number of our Review, has ſuggeſted to an ingenious mechanic in France, the idea of applying it to an uſeful purpoſe in domeſtic œconomy; namely, for ſuperſeding the common tinder-box of flint and ſteel. He firſt endeavoured to

aſcertain the greateſt degree to which it is poſſible to reduce the capacity of the forcing pump and the quantity of air, compatible with the production of the deſired effect. After different trials, he found that he could inflame tinder in tubes or pumps of compreſſion, about one third of an inch in diameter, and ſix inches long. When a tube of theſe dimenſions was well bored, and the piſton fitted well, he ſeldom failed to ſet fire to the tinder by a ſingle ſtroke of the piſton. The author has, in conſequence, conſtructed for ſale portable compreſſing tubes, to which he gives the title of the *Pneumatic Tinder-box*, and which are preferable to thoſe of phoſphorus and the like, recently invented, as being leſs dangerous in the uſe.

Med. and Chir. Rev.

On the Compoſition of Bile.

Bile has been commonly conſidered as a ſort of animal ſoap, formed of oil and ſoda, holding in combination a conſiderable quantity of albumen or animal matter. From ſome late experiments of M. *Thenard* on the ſubject, it would ſeem that this idea is not ſtrictly accurate. Bile, by deſtructive diſtillation, leaves a reſiduum of one-eighth, a fifth part only of which reſiduum is ſoda, or one-fortieth of the original bile; a quantity by no means ſufficient to ſaponify the oil which is contained in this fluid.

M. *Thenard* found, that, when the oil and albumen are precipitated from bile (which may be done by acetite of lead having a ſlight exceſs of oxide), the remaining liquor by evaporation affords a peculiar ſubſtance, which has the property of diſſolving the oily part of bile, while it is not, like the ſoda which alſo diſſolves a portion of oil, affected in its ſolvent pow-

ers by acids. This peculiar matter found in bile, and which M. *Thenard* conſiders as of a ſaccharine nature, amounts to about a twentieth part of the whole in the bile of an ox, which was made the ſubject of experiment.

Med. and Chir. Rev.

Method of preſerving Water ſweet at Sea.

A Dutch chemiſt, M. *Stipriaan Luiſcius*, has propoſed the following ſimple method of preſerving water ſweet in caſks at ſea, and which, he ſays, is found to be perfectly ſucceſsful. To a caſk of water he adds an ounce of oil of vitriol, and afterwards an ounce and a half of white marble reduced to fine powder. As ſoon as the marble has been introduced, the caſk is cloſely ſtopped down. In a little while a crackling noiſe is heard within the veſſel, occaſioned by the diſengagement of carbonic acid gas; but the noiſe ſoon ceaſes, the water taking up the gas as it is formed in ſolution. Water thus treated gave no ſign of alteration after it had remained a conſiderable length of time in a cellar. The preſervative ingredients employed on this occaſion leave in the water merely an inconſiderable quantity of ſelenite, which renders it in all reſpects ſimilar to ſpring water ſaturated with this ſalt, and which, it is well known, is very little liable to become putrid on keeping.

Med and Chir. Rev.

Injections of the Nerves.

M. *Oſiander* has lately exhibited to the Univerſity of Gottingen, ſeveral preparations of the nerves injected with mercury.

It is already known, by the intereſting work of M. Reil, *De Structura Nervorum*, that the optic nerves, after a certain preparation, may be injected with mercury: that is to ſay, after the expulſion of the ſoftened contents of the ſmaller tubes (*canaliculi*) by means of a ſyringe of a particular conſtruction, mercury may be diſtributed throughout them, becauſe theſe *canaliculi* anaſtomoſe or communicate with each other, ſo that injection is neceſſary only by one orifice. During many years, M. Oſiander has practiſed ſuch injections in a manner peculiar to himſelf. He has ſhewn the optic nerves of oxen and calves, reſembling threads of ſilver interlaced, preſerved in ſpirits of wine. He remarked on this occaſion, that *Coiter*, of Nuremberg, in his work, now very ſcarce, entitled, "Externarum et "internarum principalium humani corporis partium tabulæ, "Norib, 1572, fol." had ſaid, p. 87, "Opticus nervus minimé "ut *Galenus* aliique ejus aſſeclæ voluerunt, ex ſolido corpore "eoque perforato conſtat, verùm non aliter atque cæteri om-"nes nervi, ex multis nervoſis fibris ſive filamentis ſibi mutuo "membranarum beneficio connatis conflatus. Hoc in bovino "optico nervo luce clarius eſt: nam ſi medullarem fruſti cujuſ-"dam nervi optici humiditatem digitis expreſſeris, filamenta "nervoſa conſpicies. Idem atteſtatur *Euſtachius* in examine "oſſium, ubi ſic inquit: nervus viſorius veluti tenuiſſimum ma-"tronarum linteum, in innumeras rugas æquales et pari ſerie "diſtributas complicatus, tuniculaque illas ambiente coactus hac "eadem inciſa evolvi ſeſe permittebat, et in amplam membra-"nam totum explicari atque intendi."

Conſequently Coiter was acquainted with the ſtructure and texture of the optic nerves; and on this acquaintance is founded the poſſibility, queſtioned by many, of injecting theſe nerves with mercury. However, till now no attempt had been made to inject other nerves than the optic, eſpecially in union with various parts of the body, becauſe it was not underſtood by what means the nerves might be prepared for the reception of

the mercury. But M. Oſiander took advantage of an opportunity offered by nature herſelf to promote ſuch an undertaking. Some time ago, of twins which were born in the lying-in hoſpital, one died of a watery head. M. Oſiander, on examining the brain, found the ſofter ſubſtance extremely ſhrunk, but the cortical, on the contrary, extended by the water, with the fine pellicles of the brain; and preſenting that membranous ſubſtance which Dr. Gall is of opinion may be effected in any brain by art. This obſervation led him to conjecture that the marrowy ſubſtance of the nerves of this child might be equally ſhrunk and waſted in the nervous canals, ſo as to admit the progreſs of mercury. He tried, in conſequence, to inject ſeveral nerves of the body, and ſucceeded.

M. Oſiander ſhewed this preparation, unique in its kind, in which the *nervus phrenicus* of the left ſide, the *truncus communis pro nervo mediano, cubitali et cutaneo*, the *nervi cubitalis, cutaneus major, palmaris medianus* and the *rami digitales ex mediano*, were partially injected to the ends of the fingers with quickſilver. In the left foot, the *nervi lumbalis, cruralis, ſaphænus*, with many of their branches, were clearly ſhewn, without any varicous diſtenſion. M. Oſiander infers, that in this way, and after an experiment which has ſo fully ſucceeded, art may ſucceed hereafter in injecting with quickſilver the nerves of thoſe ſubjects which have been waſted by diſeaſe, till at length the nervous ſyſtem may be as completely exhibited and underſtood as the lymphatic now is. Certain effects which have been obſerved, give reaſon to conclude that ſimilar injections are equally poſſible in other ſubjects alſo.

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☞ *Important Information to Bookſellers.*

Dr. Spalding, of Portſmouth, New Hampſhire, complains that not a ſingle volume of this Journal, later than the 13th, is to be found in America, and aſcribes the circumſtance to ſome inattention on the part of our Publiſher. On inquiry we find, however, that the bad faith and the bad credit of the American bookſellers, are the cauſes why very few good books are exported from England to the United States. The merchants are not paid for one half they ſend, conſequently they ſeldom export any books for Amercia, except ſuch as they can purchaſe at the price of waſte paper. Our publiſher ſays he ſent quantities of this Journal to New York, with little or no return, for ſeveral years; and that he has not yet received from his Agents a tenth of the ſum due to him. The complaint of Dr. Spalding has frequently been made to us by other American Correſpondents, and we embrace this opportunity of explaining the origin of the evil, conceiving that it may be eaſily removed by the eſtabliſhment and ſupport of ſome Bookſelling Houſe in America, of unqueſtionable punctuality and credit.

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